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MARTIN KRAMER

TEACHERS' AGENCY IN SCHOOL DEVELOPMENT

A journey of expansive learning

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Reviewed by

Professor May Britt Postholm, NTNU, Trondheim
Docent Jussi Silvonen, University of Eastern Finland

Custos

Associate Professor Sami Paavola, University of Helsinki

Supervisors

Docent Ritva Engeström, University of Helsinki
Associate Professor Sami Paavola, University of Helsinki

Opponent

Professor Dmitry Leontiev, HSE University, Moscow

Unigrafia, Helsinki

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Grundworte bedeuten nicht Dinge sondern Verhältnisse.

»Primary words do not signify things, but they intimate relations.«

MARTIN BUBER, 1923/2000

Epigraph taken from the first page of Buber's manuscript of *Ich und Du*.

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Martin Kramer

Teachers' agency in school development – A journey of expansive learning

The thesis is concerned with the relationship of the 'individual self' and 'collective subject' in the formation of teachers' transformative agency conceptualised within cultural-historical activity theory. This topic is addressed by moving and oscillating between accomplishing an intervention project of school development as a joint activity of teachers and a theoretical discussion on individual needs deriving from existentialist and self-determination frameworks. These two lines of thinking are integrated in the original studies and their corresponding publications which focus theoretically on different aspects of the individual and collective planes of activity. The school development project took place at a small Austrian secondary school during the period of a nationwide school reform.

Study 1 dealt with a unit of analysis in conceptualising learning. It contrasted J. Reitter's theory of inquiry learning arrangements, a local (Austrian) rendition of inquiry learning representing an individualistic approach to learning, with Y. Engeström's theory of expansive learning, identified as a collective approach to learning and known for utilising and advancing formative intervention methodology. Study 2 focused on reflective practice which draws attention to an internal or mental part of activity. In defining reflective practice, Thompson and Pascal (2011) led me to examine six core existentialist assumptions which underlie their theory of reflective practice. Cross-fertilisation between these assumptions and the chosen formative framework shed light upon the relation between existential needs and activity and, at the same time, turned the attention to the finding that human motivation is weakly addressed both in object-oriented activity and in reflective practice. Hence, Study 2 includes a tentative model by which I aimed to integrate the idea of activity system model and existential need dimensions with their 'metanecessities' (basic psychological needs) as a source of motivation, as introduced by D. Leontiev (2012). The individual and collective need dimensions of the model were discussed in the field of education. Study 3 brought into discussion teachers' attitudes and worldviews as professional resources of meaning making, and personal constructs being studied as tertiary artefacts by which the teachers were constructing what is meaningful in education. A special interview technique (D. Leontiev's 'Ultimate Meanings Technique') was used in the project for approaching teachers' core assumptions of the world. Interview results were turned into reflective material (mirror) to assist teachers' discussions on worldviews. The study drew attention to a historical tension inside the professional vision.

The summary of the original studies extended the theoretical discussion on need, motive, and object related to activity. D. Leontiev's integrative model of needs, based on existential need theories, offered an analytical view to individual in which a person's interaction with the world, mediated by culturally transmitted tools, is considered the source of human motivation. I argue in the thesis that, capitalising on this integrated model, the existential metanecessities can be interpreted as 'unobjectified' needs (A. N. Leontiev, 1978) that are inherent on a biological, a social, and a personal level of a human relating to the world. In the frame of this conception, the metanecessities can be interpreted as mediating links between individual and collective planes of activity. By combining this view with object-oriented activity, I could refine and argue for the tentative model (Study 2) in which psychological needs (metanecessities) are placed inside the collective activity system forming the 'inner' triangle which is dialectically related to the collective activity system through three 'outer' triangles. The model is presented as a contribution to the discussion on the still insufficiently resolved dichotomy of individual and collective planes of activity by providing a double framing which can be likened to and demonstrated as being reflectively positioned between two opposing mirrors. While looking at a mirror and analysing what lies *before* you, you realise that what you see (and can see) is actually your *background* – a colourful texture of experience that has accumulated over the years of practice within the activity. Conceiving yourself as being embedded in the picture, positioned in front of that background, and amidst other participants with an assumed similar experiencing but with their personal sense making, makes subjective mechanisms discernible as inherently necessary moment within unfolding activity. The theoretical discussion is completed with an illumination of possible mechanisms through which the teachers are shaping and are being shaped by instrumentality of transformative agency for allowing one to participate in and contribute to processes of which object is collective.

KEYWORDS: cultural-historical activity theory, reflective practice, transformative agency, existential needs, school development

Martin Kramer

Opettajien toimijuus koulun kehittämisessä – Ekspansiivisen oppimisen henkilökohtainen ja yhteisöllinen matka

Tutkimus käsittelee yksilöllisen ja kollektiivisen toimijan suhdetta kehittävässä tutkimushankkeessa, joka toteutettiin kulttuurihistoriallisen toiminnan teorian viitekehyksessä soveltaen 'muutoslaboratorioksi' kutsutun menetelmän lähtökohtia. Kehittämisen taustalla oli keskiasteen koulu-uudistus ("Neue Mittelschule") Itävallassa ja paikallisen koulun opettajien tehtäväksi tullut koulureformin tulkinta ja sen yhteinen artikulointi koulun perustehtäviä ja profilointia koskevaan asiakirjaan. Koulun pitkäaikaisena opettajana koin henkilökohtaisesti ja samalla muita opettajia koskien ongelmana uudistuksen opettajiin kohdistuvat ristiriitaiset odotukset ja tavoitteiden erilaiset tulkinnat. Tutkimukseni alkoi etsimällä kirjallisuudesta näkemyksiä koulun yhteiskunnallisesta perustehtävästä yhtäältä ja toisaalta tutustumalla psykologisiin motivaatioteorioihin, jotka toimivat oppimisen ja opettamisen perusteina. Toteamalla tämän yksilöllisen työskentelyn riittämättömyyden tein aloitteen koulun opettajakunnalle (14 opettajaa) koulun profilointia koskevan kehittämishankkeen käynnistämisestä. Toimin itse hankkeen vetäjänä ja tutkijana samalla kun olin koulun opettajatiimin jäsen ja toimin koulun opettajana. Väitöstutkimukseni koskee kehittämishankkeen (vv. 2014–2016) toteutusta opettajien yhteisenä toimintana ja käyttäen tätä toimintaa referenssinä tutkin toimijuutta teoreettisena kysymyksenä kulttuurihistoriallisen toiminnan teorian viitekehyksessä. Väitöskirja koostuu kolmesta erillistutkimuksesta, jotka tarkastelevat yksilöllisen ja kollektiivisen toiminnan suhdetta sen erilaisten aspektien näkökulmasta. Ensimmäinen tutkimus kohdistui oppimisen analyysiysikköön: onko se yksilöllinen vai kollektiivinen. Toisen tutkimuksen aiheena oli reflektiivinen toiminta ja sen eksistentiaalinen tulkinta suhteessa kehittävän interventiotutkimuksen kohteeseen, joka on luonteeltaan kollektiivinen. Kolmas tutkimus lähestyi subjektiivisen realiteetin ja ulkomailman suhdetta ja sitä välittäviä mekanismeja D. Leontievin motivaatiota koskevassa viitekehyksessä. Tässä erillistutkimuksessa raportoidaan henkilön tavoitteita ja inhimillisen elämän merkityksiä etsivän erityisen haastattelumenetelmän (Ultimate Meanings Technique, UMT) soveltava kokeilu opettajien kanssa.

Tutkimuksen teoreettinen keskustelu kohdistui toiminnan teorian peruskäsitteiden (tarve, motiivi, kohde) keskinäisten suhteiden erittelyyn sekä niiden tarkasteluun toimintajärjestelmän kolmiomallin avulla (Y. Engeström). Nojautumalla eksistentiaalisen lähestymistavan ja sitä edustavan eksistentiaalisia ulottuvuuksia (biologinen, sosiaalinen ja persoonallinen) integroivan mallin (D. Leontiev) mahdollisuuksiin määritellä yksilö

suhteessa ulkoiseen maailmaan esitän tutkimukseni tuloksena toimintajärjestelmän mallin, joka käsittää sisäisten suhteiden välityksellä myös metataseiset tarpeet, jotka rinnastuvat psykologisiin perustarpeisiin (Deci & Ryan). Sovellan mallia koulun yhteiskunnallisten perustehtävien tarkastelussa.

AVAINSANAT: Toimijuus, muutoslaboratorio, koulu-uudistus, reflektiivinen toiminta, eksistentialismi, kulttuurihistoriallinen toiminnan teoria

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Austria, in the spring of 2021

Martin Kramer

PREFACE

COMING FROM A FAMILY OF TEACHERS, my interest in school primarily arose from long talks with my grandparents, whose experience as school children, students, teachers, headmasters and teacher educators spanned many decades of the 20th century, starting with the final years of the Austrian Empire, leading on to the educational reform movements of the 1920s, the instrumentalisation of institutionalised education during the years of Austrian fascism and the reign of the national socialists, and the post-war years up to the reform movements of the early 1970s, which is about the time where my own experience as a school child set off. I owe my decision to also become a teacher in large part to these extended conversations.

After having been a teacher at an Austrian secondary school for more than twenty-five years, and after having experienced several changes within the school system myself, my interest returned to the field of school development and teacher education, and I decided to focus on it.

In 2011, I took the opportunity to attend the course *Activity Theory and Formative Interventions* offered by the Center for Activity, Development and Learning (CRADLE) during Helsinki Summer School, where I gained first-hand insight in current developments in cultural-historical activity theory (CHAT) and its application in education and organisational studies. Having caught fire, I was very lucky to be admitted as a distance student (2012–2015) to the CRADLE's doctoral programme in Developmental Work Research and Adult Education (DWRAE) which at that time was part of the Finnish Doctoral Programme in Education and Learning (FiDPEL, now FinEd), the largest graduate school in Finland, financed by Finland's Ministry of Education and the Finnish Research Academy.

In 2013, while still teaching at the same secondary school, I started working part-time at the Institute for Research and Development at the Private University of Education of the Diocese of Linz, Austria, which offered the unique opportunity of being able to frequently switch perspectives between being a *researching teacher* and a *teaching researcher*, something that would otherwise have barely been possible to that extent.

In this thesis, I investigate the developmental journey of my school as it was transformed into a *New Secondary School*. Being deeply involved in the whole process, this has also been a journey of personal development, a journey for which I am deeply grateful to all whose path I crossed and who I was lucky to learn from, co-operate with, and grow together.

ORIGINAL ARTICLES

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- Kramer, M. (2018). Promoting teachers' agency: Reflective practice as transformative disposition. *Reflective Practice*, 19(2), 211–224. doi: 10.1080/14623943.2018.1437405
- Kramer, M., & Engeström, R. (2019). Teachers' beliefs as a component of motivational force of professional agency. *Learning, Culture and Social Interaction*, 21, 214–222. doi: 10.1016/j.lcsi.2019.03.007

1 INTRODUCTION

The thesis addresses a quest to come to grips with changing educational policies, not by passive adaptation, but by supporting teachers to intervene into their situation and become agents of school change. European and international comparability concerning the quality of education, achieved by applying nationwide standardised testing (PISA, TIMSS, PIRLS), has put governments under considerable pressure to improve the quality and efficiency of their school systems. This has led to continuous and accelerating change in their education policies: school reform has become a permanent endeavour that takes place at a seemingly increasing pace. Literature on the topic (Biesta, 2009; Deci, 2009; Hattie, 2009; Sahlberg & Hargreaves, 2011; Saunders, 2012) points at the crucial role that the personal and collective development of teachers and school administrators plays as they have to keep up with, internalise, and execute those reforms, oftentimes facing a perceived loss of agency on their side.

Austria being no exception to these developments has been thoroughly reforming secondary education. A study of this thesis is conducted at a lower secondary school (students aged 10–14) for investigating the situation of Austrian secondary school teachers as they face the transition of their school into what has been termed *new secondary school* (“Neue Mittelschule”). A new focus emphasises individualisation (including inclusion) on the basis of a growing awareness of the learners’ heterogeneity, and of regional specific demands. At the same time, a focus is put on achievements and performance of the new school type (termed “Leistungsschule”) – something that sounds contradictory to many teachers. This is even more so in the face of short-lived political decisions: As these lines are being written, the school reform has – under a new government – already been reformed again, taking back some of the innovations that were introduced just years before. The studied school is comparatively small with just around fifteen teachers (14 teachers and about 100 students during the period of the study). I started teaching at the school in the late 1980s and was appointed school principal in 2017.

The thesis is titled “*Teachers’ agency in school development. A journey of expansive learning*”. It is needless to say that what is presented here as a more or less structured journey is a view that has only become possible in retrospect. Throughout this recorded part of the journey it more often resembled an *odyssey* characterised by manifold detours – albeit some of which turned out to be worthwhile and fruitful for the further development of the endeavour – but also by several miniature cycles of innovative learning (Engeström, 2015, p. xxii) that emerged at unexpected times and places. The journey has a starting point, and it has a route that at times was set beforehand but that just as often was defined by necessities and the search for viable options. It began with a demanding situation I was facing as a teacher, a situation that almost led to a burnout. At that point I started looking for new perspectives that might rekindle the fire in my professional life and that

might at the same time have an impact on the whole school community. I started to sense that somehow these individual and collective aspects might be interconnected more deeply than I had previously thought. I consequently characterise this thesis as journey of *expansive learning*, a collective type of learning introduced by Engeström (1987/2015) that – in contrast to individual approaches – takes place on a systemic level and encompasses the whole activity, including all of its constituting components. As it turned out, a cultural-historically informed access to *school activity* opened up ways for taking into account different educational needs and societal demands which were partly experienced as contradictory, and by addressing educational reforms *collectively*. This happened when we started together, as a team of teachers of the school, to rethink and reformulate how we perceive our school and want it to be seen amidst transformations in which we have to redefine our professional roles.

For introducing the reader to the thesis I first present an outline of the journey from my personal point of view and, thereafter, a structure of this Summary with the help of the outline. I differentiate five phases of the journey:

(1) ORIENTATION. The outset of the journey was marked by a growing interest on my side to gain a deeper understanding of general educational ideas or societal demands as they were addressed by different authors in the educational sciences (e.g., Lamm, 1976; Egan, 2008; Biesta, 2015a). This interest was even more aroused when I found out how these ideas could be related to each another.

(2) MOTIVATION. I took a chance of receiving further education (at the University College of Education of the Diocese of Linz, Austria), in the course of which my attention was drawn to theories of *motivation* – particularly the basic psychological needs as put forward in self determination theory (Deci & Ryan, 2000), as these seemed to reflect dimensions of the above mentioned educational ideas.

(3) CULTURAL-HISTORICAL ACTIVITY THEORY. Quite at the end of this education, I – more accidentally than on purpose, just by following one link to the other – landed at the *zone of proximal development* (Vygotsky, 1978), and, finally, at the website of the CRADLE, the Centre for Research on Activity, Development and Learning¹ (University of Helsinki), where I first learnt about the activity system represented by Engeström's (1987/2015) triangle model. I became interested in the idea of connecting both the educational ideas as well as the psychological needs with a triangle model of educational activity and started to study cultural-historical activity theory in general.

(4) A SCHOOL-BASED DEVELOPMENT PROJECT. As a doctoral student at the CRADLE, I initiated and facilitated a school-based development project (2014–2016) in my own school in Austria. In practice, I was experiencing the roles of being a researcher, a member of the researched team of teachers, and a teacher (during the project). The focus of

¹ <https://www.helsinki.fi/en/researchgroups/center-for-research-on-activity-development-and-learning>

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the project was on the formation of transformative agency of a teachers' team for reforming education. The team worked on a concrete task of challenging and reformulating the school's guiding principles, or local policy, which sums up the school's core duties, strategy plan and mission statement. The project was designed in accordance with formative intervention methodology being accommodated to local affordances and my multiple roles in the project.

(5) SUMMARY. The summary at hand aims to complete, in light of the school-based development project, my theoretical considerations which came up and were developed in the original studies.

In all, the thesis comprises three original studies (referred to as articles 1–3) and the summary. The studies led me to move and oscillate between my theoretical themes bound to the educational ideas or demands in society and my ultimate interest in teachers' agency for change being examined as a concrete activity with and in the project. I will proceed in this summary by discussing educational ideas which represent the starting point and the core of my thinking throughout this journey (chapter 2). After this, I introduce the reader to the Austrian educational system, its changes and current reforms (chapter 3), as it sets the basis of the local culture of teachers and performs the site of the present research. The overview of the original studies (chapter 4) sets up the theoretical themes. The discussion (chapter 5) aims to integrate and complete the theoretical and methodological argumentation presented in the original articles. Final remarks (chapter 6) include an evaluation of my role as a researcher-practitioner and implications for future research.

2 ON EDUCATIONAL IDEAS

As mentioned in the introduction, the *orientation phase* of this project was marked by a growing interest to gain a deeper insight into educational ideas in general. This interest was triggered by a very demanding situation I was facing as a school teacher at that time as well as by rumours of upcoming major reform steps in Austria's school system. I understood that in order to professionally master the current situation I needed to take one or two steps back in order to be able to gain an overview and reorient myself, and hence started reading literature on educational ideas in general. When I discovered a repetitive pattern, which I present in section 2.1, the exploration became more and more directed. In section 2.2, I elaborate and articulate tentatively the found pattern and direction in theoretical terms. In section 2.3, I connect these theoretical preconceptions to my research interest of teachers' agency in school development.

2.1 COMPLEMENTARY YET CONTRADICTORY APPROACHES TO EDUCATION

School as *institutionalised education* has been continuously developed since it was first called so in Greece (Egan, 2008, p. 5). Derived from the word *σχολή*, which first meant *leisure time activities* (Gemoll, 1965, p. 725), or, more precisely, *suitable use of leisure in cultural activities* (Egan, 2008, p. 5) for male Greek adolescents and young adults, its meaning, as well as its significance for society, continuously changed. Throughout the centuries, three conflicting educational ideals became evident that today are still present as distinct aims for schools (Russell, 1926, ch. 2). Egan (2008, p. 9–37) addresses them as *socialisation*, *Plato's academic ideal*, and *Rousseau's developmental ideal* and historically maps the introduction of the first to the ancient hunting-gathering societies using language for creating narratives, the second to the advent of literacy, and the third to the invention of printing and the age of *Enlightenment* (Egan, 2008, p. 22). The latter is characterised by a radical rethinking of the nature of education, especially by Rousseau. The problem is that, from the very beginning, these initially good and powerful educational ideas were not only incompatible with one another, but that each of them was also problematic in its own right.

SOCIALISATION THROUGH NARRATIVES worked efficiently for hunter-gatherer societies, as these stories

were designed to create for their hearers a conceptual image of what we may call the meaning of life. They gave to the young, and reinforced for older people, images of who 'we' are and what we are doing here ... and where we are going next. (Egan, 2008, p. 12)

Through narratives, the world became meaningful and explicable. Stories helped establish and stabilise communities. They have done so for countless generations, and they are

still powerful and effective, especially in the years of early childhood. They become our conceptual lenses, the way we look at the world: “The stories we are first told ... pretty well fix the values people hold until their death. They become the things people think with, not the things they think about” (Egan, 2008, p.14). One issue with socialisation through narratives, though, is that this stabilising factor becomes problematic for modern societies that are changing at a much higher pace and require much more flexibility than was needed in the ancient oral societies: The scripts for the narratives are continuously being altered and rewritten, and an early fixation of how to interpret the world is likely to prove counterproductive to actually successfully coping with it. Another problematic issue with socialisation is that – if applied successfully – it bluntly translates into *indoctrination*. This becomes obvious when educational efforts are compared between communities or political systems, preferably of a different political, religious or otherwise label: “We educate, while *they* indoctrinate” (ibid.).

The invention and spread of literacy, with knowledge being stored in literate codes, required the introduction of a new institution to professionally initiate young learners into the art of coding and retrieving information: Schools were introduced. PLATO’S ACADEMIC IDEAL builds on the fact that now new generations of learners could learn from the records of generations past, and that it was good to do so as thoroughly as possible, thus “enabling us to understand the world and transcend the (socialized) conventions of our time and place” (Egan, 2008, p.19). One obvious problem linked to this idea is that, with the enormous amount of knowledge that has accumulated and is available today, one has to figure out what would be most important to remember – what would be an appropriate curriculum – a question that is usually being answered by “committees of ‘stakeholders’” (ibid.) and that has been the source of continuous debate ever since. Literacy also comes at a price: It is hard to master, and, if stressed too much, “disrupts and significantly destroys the orality of their [the childrens’] early years” (ibid.): The increase in *cultural memory* that comes about with the introduction of literacy reduces the demands on *individual memory*, which was one of the major concerns of Socrates as he objected to the spread of literacy (Wolf, 2007, pp. 69–78). The biggest problem with Plato’s academic idea, however, stems from the fact that there isn’t any *knowledge* stored in libraries and databases. All that’s stored there is *codes*, and they have to be retrieved and interpreted, brought to life by living human tissue, they have to be thought, spoken, and put to practice, or else they remain dead codes.

The third educational idea, coined by Egan as ROUSSEAU’S DEVELOPMENTAL IDEAL, stated that, analogue to the Enlightenment belief about the disclosure of natural laws by careful observation aided by reason, *human nature* and its development could just as well be uncovered. This new understanding of a natural process of mental development brought about a reconceptualisation of education that now sought to foster individual traits and personal development, thus undercutting the idea of socialisation and leading to a “fundamental conflict between forming the citizen and forming the individual”

(Egan, 2008, p. 23). But what exactly is *human nature*, and how does it develop? The worse news is that Rousseau's developmental ideal can't work:

The worse news follows the observation that human beings don't have a nature. Well, that overstates it to underline a point. There are obviously regularities in human mental development, but they are so tied up with our social experience, our culture, and the kinds of intellectual tools we pick up that we can't tell whether the regularities are due to our nature, to our society, to our culture, to our intellectual tools, or what. We can't simply measure the regularities, which turn out to be pretty irregular from person to person anyway, and see through them to our nature, or to some autonomous developmental process. The Russian psychologist Lev Vygotsky pointed this out as a fatal flaw in Piaget's theory in the 1920s, but it is only now, with the generally recognized founding of Piaget's theory, that the force of Vygotsky's criticism is coming home to many. (Egan, 2008, p. 26)

On the other hand, a combination of Rousseau's developmental ideal with Plato's idea about knowledge seemed promising. However, this promise has mostly not been fulfilled (except for those being lucky to receive an elitist education) but instead lead to a "bizarre war between those who were 'subject-centered' and those who were 'child-centered', between traditionalists and progressivists throughout the twentieth century" (ibid.):

Each of the three ideas, then, has significant flaws. Well, of course – has been the response since the mid-nineteenth century – that's why we put them together. Judicious application of one or another of the ideas supports or constrains the third; each solves problems created by the others. So the academic idea has been used to provide support for individual development and to put a brake on excessive socialization; socialization has been used to give individual development a sense of direction and to provide a check on the élitism of the academic idea; and individual development has been used to check the excessive intellectualism of the academic idea and to enrich, enlarge, and diversify socialization. Ah, the best of all possible worlds!

To put a slightly less positive spin on it, our three defective ideas prevent each other from doing too much damage. So, we socialize, but we undercut indoctrination by the academic program calling society's values into question and by the commitment to individual development reducing society's claims on any particular individual; we pursue an academic program, but we undercut intellectual élitism by egalitarian pressures from socialization and by attention to other dimensions of individual development; we encourage individual development, but we undercut its fulfillment by the homogenizing pressures of socialization and by the standardizing brought about by a common academic curriculum. Ah, what a wonder of compromise is our modern conception of education! (Egan, 2008, p. 28)

As elucidated by Egan (2008, p. 9), Lamm (1976) takes a similar position. As *archetypes of education* (Lamm, 1976, p. 116) that ascribe different meanings to it he addresses *social-*

*isation, acculturation*², and *individuation* as CONFLICTING SOCIETAL DEMANDS that have to perform the different functions of “training the young for social roles, initiating them into a culture, [and] supporting their self-actualization” (Lamm, 1976, p. 56). This means that they inextricably carry with them the whole cultural and historical background of a given society.

In a similar vein, Biesta (2015a, pp. 7–8) distinguishes *qualification, socialisation, and subjectification* as DOMAINS OF THE PURPOSE OF EDUCATION that, like Egan’s interpretation, at least potentially are in conflict with each other:

... although there are interconnections between the three domains and there are, therefore, possibilities for synergy ... the three domains are not seamlessly connected, so that, in addition to opportunities for synergy, there is also a real chance for tension and conflict. The three domains of educational purpose pull us as educators in slightly (and sometimes significantly) different directions. (Biesta, 2015a, p. 10)

As institutionalised education, schools reflect in history a continuous attempt to stress one or the other of these dimensions of formal education, or to find the optimal balance that gets the best out of each of them without too much compromising the others, a *pendulum swinging forward and backward*, as I recall my grandparents saying, who were also teachers.³

2 Lamm uses this term as a synonym for *enculturation*. He talks of being initiated into a culture, not of the meeting of two cultures.

3 I still vividly remember being engaged in extended discussions with my grandparents – three of them happened to be teachers – whose lived experience with the Austrian school system covered the first three quarters of the twentieth century. They were school children in the final years of the Austrian Empire, teacher students and young teachers during the years of Austria’s first feeble attempt at practicing democracy, cautiously experimenting with new models of schools and bringing in ideas of progressive education, like Montessori’s concepts or the Viennese school model of the 1920s, which were then swiftly done away with and replaced by strict *Gleichschaltung* (synchronisation) during the times of Austrofascism, and later, German fascism. After the war – during which two of my grandparents cooperated with the national socialists, and one was in active resistance (which led to an occupational ban for the former two in the first years that followed the war, and immediate reinstitution into the teaching profession for the latter, as my grandmother, being a socialist, had been expelled from teaching during fascist reign) – they tried to continue from where they had left. It was only in 1962 that a major school reform took place, at a time when one of them had become a school principal, one had engaged in teacher education, and one remained a secondary school teacher. During these decades, form and function of institutionalised education changed several times, the pendulum first tentatively swinging towards individuation, then to rigid synchronising socialisation (which in that context obviously equalled to indoctrination), and then towards a new attempt to balance those educational concepts. Finally, by the time my grandparents were about to retire, a new era of experimenting with progressive educational ideas had started, one that I already remember as a school child.

2.2 AN EXISTENTIAL PERSPECTIVE: A HUMAN RELATING TO THE WORLD

But why should education be centred around just three basic ideas, or societal demands, and why exactly around those three? Taking an existential philosophical perspective (Thompson & Pascal, 2011; see also article 2), one possible answer can be achieved by approaching the above educational ideas as fundamental *existential* dimensions – a human subject being confronted with a threefold *Other* – with other humans, with the world, and with the self. We are most fundamentally *related to* others and the world, since we are part of *them*, and of *it*. Yet at the same time we experience an existential *otherness*. This threefold *Other* is echoed in our educational aims: Most basically, we teach and have to learn to (a) peacefully live and grow together in order to (b) cope with and successfully act in the world by mastering cultural tools and by creating new ones, and (c) find and define our own place in this world and develop our personalities. Table 1 summarises the educational ideas introduced in 2.1 and allocates them to their respective existential dimensions.

TABLE 1 Existential dimensions of educational ideas

existential dimensions	educational ideas (EGAN, 2008)	societal demands (LAMM, 1976)	educational domains (Biesta, 2015a)
the others	socialisation	socialisation	socialisation
the world	academic ideal	acculturation	qualification
the self	developmental ideal	individuation	subjectification

The same existential dimensions can arguably also be found in a theory of motivation developed by Deci and Ryan (2000). The theory proposes *relatedness*, *competence*, and *autonomy* to be basic psychological needs that have to be equally met in order for an individual to thrive. Self-determination theory (SDT) posits humans to be active organisms that are oriented towards growth and mastering challenges. In his review of approaches to human motivation pertaining also SDT, D. A. Leontiev (2012, pp. 16–23) proposes from the perspective of cultural-historical activity theory that the basic psychological needs are acting like *existential meta-necessities* that relate the individual towards the other, the world, and the self. Departing from the individual's relating to the world, rather than from an isolated organism situated in some environment, Leontiev argues that

a person's interaction with the world mediated by culturally transmitted tools, rather than inborn potentialities or environmental pressures, is considered the source of mental and personality development, the source of human motivation. (Leontiev, 2012, p. 15)

Building on these considerations, the thesis discusses whether Leontiev's meta-necessities can provide theoretical means to reconsider the relationship between societal demands and individual needs from the point of view of existential dimensions. In contrast to SDT's position to conceive basic psychological needs to be innate and personal, the

thesis indicates that in concrete human activity (educational activity being the example used throughout the thesis) the psychological needs become concrete and are shaped by culture and history. First, the relation to other humans is characterised by our need for relatedness as well as the necessity for becoming socialised into our culture, for becoming members in our societies. Second, our effort to become competent in an increasingly complex world in which division of labour has become more and more diversified is complemented with the societal demand for acculturation – or qualification, to use Biesta’s (2015a) term. And finally, our individual relating to the world and, with it, our need to experience autonomy is echoed in the developmental ideal and the societal demand for individuation. This argument is elaborated in detail in chapter 5.

2.3 TEACHERS’ AGENCY IN FORMATIVE INTERVENTION

So far, the educational ideas or societal demands concerning institutionalised education primarily reveal school to be a place of *reproducing* culture by bringing forth well-functioning citizens that have mastered the cultural tools they need to get along in life and who are prepared for taking up predefined social roles, revealing the stabilising, conserving function of institutionalised education. As such, “[s]tabilization is not evil. It is necessary for our survival in a complex world”, as Engeström (2007, p. 271) puts it, referring to *stability knowledge* as being “constructed to freeze and simplify a constantly shifting and otherwise bewildering reality” (ibid.).

But this is only one side of the coin: In turn we also *create* and *shape* culture and inevitably also *transform* the community and the world while at the same time we *become* personalities. School is not only about reproducing and conserving culture, of stabilising it. It is also about creating culture, about improving cultural artefacts and developing new ones previously unheard and unseen of in order to meet the challenges of a world and societies that change at an ever increasing pace. School is not only about internalisation of rules, norms, and traditions but also about questioning and challenging them with regard to their usefulness. And school is not only about internalising social roles but also about transcending them and defining new ones, it is about the continuous struggle of students and teachers to develop their personalities. While oftentimes having a reputation of being an institution that stays way behind societal and cultural developments, school also has the potential, and the responsibility, to take a more progressive role in society.

School as a place for creating culture and for fostering social change implies that teachers are performing their agency by appropriating their professional capacity interlinked with a desire to reinterpret and reconstruct the significance of changes in educational practice. In expansive learning, the formative intervention methodology aims to enable practitioners of a working community to reform their activity by bringing forth *possibility knowledge*, defined by Engeström (2007, p. 271) as “agentive knowledge, the instrumentality of agency at work” which destabilises knowledge, puts it in movement and opens up new possibilities for object-oriented activity. This kind of instrumentality goes hand

in hand with the emergence of transformative agency which is working on solving conflicts and disturbances in the object-oriented activity and contradictions of the activity system (Virkkunen, 2006). The studies on the emergence of transformative agency focus typically on the learning actions of the participants in order to identify the actions in the data and their discursive expressions and trace their dynamics in collaborative learning processes (Engeström, Rantavuori, & Kerosuo, 2013; Haapasaari, Engeström, & Kerosuo, 2016; Rantavuori, Engeström, & Lipponen, 2016).

In entering a *school-based development phase*, I initiated to my teacher colleagues a project which is designed in accordance with formative intervention methodology and assigned myself the role of a researcher. Having already examined educational ideas as associated with societal demands of education and theories of motivation, I continued in this line of research and became interested in the idea of connecting both the educational ideas as well as the psychological needs (a source of human motivation) with a triangle model of activity system seen as a central instrument of expansive learning. This research interest directed me to focus on transformative agency through reflective practice as an internal part of mental activity in learning and a specific learning mode – both individually and collectively – that empowers learners to examine and transform their core assumptions about human potential and development (e.g., Larrivee, 2000). As shown in 2.2, I followed the existentialist frame of reflective practice (Thompson & Pascal, 2011). Concerning reflective practice as well as expansive learning, I argue (Study 2) that they do not pay attention to the psychological aspect of human agency. R. Engeström (2009; 2014) has addressed the problem in research on formative interventions when it aims to offer a solution to human agency. She argues that expansive learning actions are bounded to object-oriented activity which manifests a need to be developed by reshaping the collective activity system of work. The methodology, thus, leaves the subjectivity of the learners outside theoretical and empirical interest of research. She follows Stetsenko's (2005) idea that the methodology dealing with overcoming the dichotomy of individual and collective planes of activity should pay attention not only to the productive use of tools and the social exchanges among people but also to subjective mechanisms of experiencing and sense making. Searching for the subjective aspect of transformative agency, I shall (in chapter 5) make theoretically more visible the relation between needs and activity with the help of D. Leontiev's (2012) integrated model that identifies needs on a biological, a social and a personal level of existence from the point of view of cultural-historical approach to mind.

In the following chapter, I will provide an overview of the research site, which in the broader sense is the Austrian educational system.

3 RESEARCH SITE

The actual research site – a rural secondary school – is culturally and historically embedded in the Austrian school system which hence is also treated as site of research. It is on the background of this school system that the aforementioned societal demands take on concrete forms. The following sections thus provide insight into the Austrian school system and give an account of the concrete research site.

3.1 THE AUSTRIAN SCHOOL SYSTEM

The Austrian public school system as such dates back to the times of Empress Maria Theresia who in 1774 introduced general public schools (Theresian Book of Law № 1629, pp. 116–137) and, with them, standards of where to set them up and how to manage them⁴.

FIG. 1 Theresian Book of Law, № 1629, p. 116 (1774)

den 6. Christmo- nat 7. Schul- ordnung für die deutschen Normal- Haupt- und Trivial- schulen.	Da die Erziehung der Jugend beiderlei Ge- schlechts, als die wichtigste Grundlage der wahren Glückseligkeit der Nationen, ein genaues Einsehn allerdings erfordert; so hat dieser Gegenstand alle Aufmerksamkeit um desto mehr auf sich gezogen, je- gewisser von einer guten Erziehung, und Leitung in den ersten Jahren die ganze künftige Lebensart aller Menschen, und die Bildung des Genies, und der Denkensart ganzer Völkerschaften abhängt, die niemals erreicht werden kann, wenn nicht, durch wohl getroffene Erziehungs- und Lehranstalten, die Finsterniß der Unwissenheit aufgekläret, und jedem der seinem Stande angemessene Unterricht verschaffet wird.
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This first law concerning public schools (see Fig. 1) provided the basis for setting up schools all over the empire, establishing *norm schools* («Normalschule») in each provincial capital (providing the norm for all other schools in the province), *major schools* («Hauptschule») in all major cities (at least one for every district), and *trivial schools*

4 Author's translation of the introductory paragraph of the 1774 law (see Fig. 1): *Because the education of the young of both sexes, being the most important basis for a true felicitousness of the nations, demands more careful realisation indeed; this subject has drawn attention all the more, as it is certain that all future way of living of all people, the formation of genius, and the way of thinking of whole peoples depend upon a good education and guidance in the first years; which can never be achieved if not, by means of well-crafted educational and instructional institutions, the darkness of ignorance may be enlightened and everyone be provided with instruction that is tailored to their respective status.*

(»Trivialschule«) in all minor cities and throughout the country. School became compulsory for six years, but there were winter schools for the older children and summer schools for the younger ones, making sure that the former were available for work during the summer time and the latter did not have to walk to school through the rough winter months. For the first time, school also aimed at a basic education for the girls, both genders were educated together.

In 1869, under Emperor Franz Josef I, and under the impression of the newly established constitutional monarchy of the Austrian-Hungarian Empire, a new law concerning public schooling was passed (»Reichsvolksschulgesetz 1869«). Eight school years now became compulsory. Trivial schools became primary schools (»Volksschule«). There were long forms (8 years of primary school), and shorter forms (5 years of primary school, followed by 3 years of secondary school, so called »Bürgerschule«, literally a *school for citizens*). In primary schools education could be coeducational, but from the fifth year onward boys and girls had to be separated. Alongside secondary schools there were also grammar schools (»Gymnasium«), but these were not open for girls.⁵

In 1927, nine years after the end of World War I and the establishing of the first republic in Austria, finally a new law concerning general education in Austria was passed (»Hauptschulgesetz«). After now four years of primary school, a new form of secondary school (*Hauptschule* replacing the term *Bürgerschule*) was introduced. It covered four years (ages 10–14), was generally not coeducational, and introduced *streaming on class level* (»Klassenzug«), albeit stressing the formation of one educational community⁶. Talented pupils of the first stream were admitted to grammar school without extra examination.

In 1934, with the advent of *Austrian fascism*, the 1927 law was adapted accordingly, assigning to the secondary school the role of educating a youth that *feels, thinks and acts religious-ethically, patriotic* (»vaterländisch«), *social and faithful to its people* (»volkstreu«)⁷. This law was enacted following the Austrian Civil War of February 1934.

From 1938 to 1945, Austria, now being part of the German *Third Reich*, also spread the National Socialist doctrine in the schools. Books were replaced or rewritten, and teachers had to undergo special courses. Those who opposed the system were either out of work, or else persecuted. Following World War II, the order of 1927 was re-established.

5 From the 1870s onwards, strong efforts were made by middle class women to provide higher education for their daughters in order to enable them to become economically independent (cf. Sannino's, 2014, treatise about *Simone de Beauvoir's expansive journey to become a critical writer*). The door to higher education for women was pushed open only very slowly. One prominent example is the well-known nuclear physicist Lise Meitner (1878–1968), who, after finishing *Bürgerschule*, pursued private studies in order to pass the A-level (»Matura«; women in the monarchy were admitted to it only from 1896 onwards) and become admitted to university, becoming one of the first women at the University of Vienna to receive a doctoral degree.

6 Bundesgesetzblatt 1927, Stück 61, № 245, § 18 (4), pp. 1039–1040 (»Hauptschulgesetz«)

7 Bundesgesetzblatt für die Republik Österreich, Jahrgang 1934, 60. Stück (4. April 1934), 197. Verordnung, Artikel I, § 17 (1), p. 387

In 1962, a major school reform took place⁸. School became compulsory for nine years, being organised in primary and secondary schools, special schools, and pre-vocational schools (so-called *Polytechnical Schools*, see Fig. 2), presenting the 9th year of school and preparing the students for vocational training. Alternatively, gifted pupils could also opt for grammar schools (following primary or secondary school). Education was explicitly made available to all children, regardless their birth, gender, race, social status, class, language or religious confession with the option for organising schools or classes that are not coeducational⁹. The guiding principle of the Austrian school is laid down in the second paragraph of the law concerning the organisation of the Austrian school¹⁰:

The task of the Austrian school is to contribute to the development of the aptitudes of the young according to ethical, religious and social values as well as the values of the true, the good and the esthetic through instruction that is adequate to their stage of development and their educational path. It has to provide the youth with knowledge and skills for their lives and their future professions and to educate them towards self-determined acquisition of education. The young people shall be trained to be healthy, proficient, faithful and responsible members of society and citizens of the democratic and federal Republic of Austria. They shall be lead towards an independent opinion and social understanding, be open-minded towards the political and worldview thinking of others as well as qualified to partake in the economical and cultural life of Austria, Europe and the world, and – loving freedom and peace – to contribute towards the common tasks of humanity.

One major step of the development of secondary school in Austria was the replacement of *class streams* (»Klassenzug«) with streaming *within* classes (»Leistungsgruppen«) in 1982 in the subjects German, Mathematics, and the living foreign language, mostly English, in order to meet the students' needs according to their *interests and aptitudes, talents and abilities* and equip them for their future professions or education¹¹. It is interesting to note that

8 Bundesgesetzblatt, Jahrgang 1962, 61. Stück (8. August 1962), Bundesgesetze 240–244, p. 1165

9 Bundesgesetz Nr. 242, § 4 (1), S. 1178 (25. Juli 1962)

10 Bundesgesetz Nr. 242, § 2 (1), S. 1178 (25. Juli 1962); original text: “Die österreichische Schule hat die Aufgabe, an der Entwicklung der Anlagen der Jugend nach den sittlichen, religiösen und sozialen Werten sowie nach den Werten des Wahren, Guten und Schönen durch einen ihrer Entwicklungsstufe und ihrem Bildungsweg entsprechenden Unterricht mitzuwirken. Sie hat die Jugend mit dem für das Leben und den künftigen Beruf erforderlichen Wissen und Können auszustatten und zum selbsttätigen Bildungserwerb zu erziehen. Die jungen Menschen sollen zu gesunden, arbeitstüchtigen, pflichttreuen und verantwortungsbewußten Gliedern der Gesellschaft und Bürgern der demokratischen und bundesstaatlichen Republik Österreich herangebildet werden. Sie sollen zu selbständigem Urteil und sozialem Verständnis geführt, dem politischen und weltanschaulichen Denken anderer aufgeschlossen sowie befähigt werden, am Wirtschafts- und Kulturleben Österreichs, Europas und der Welt Anteil zu nehmen und in Freiheits- und Friedensliebe an den gemeinsamen Aufgaben der Menschheit mitzuwirken.”

11 Bundesgesetzblatt für die Republik Österreich, Jahrgang 1982, 155. Stück (22. Juli 1982), 365. Bundesgesetz, 7. Schulorganisationsgesetz-Novelle, Artikel I, 9. § 15 (2), S. 1861

this streaming concept was introduced in Austria about the time it was already done away with in Finland (Sahlberg & Hargreaves, 2011). While secondary schools using this concept of streaming were very successful in rural areas they came under enormous pressure in urban areas where most gifted pupils opted for grammar schools, oftentimes degrading the “ordinary” secondary schools to be schools for less talented pupils and immigrants still struggling with the new language.

In an attempt to improve the situation, the Ministry of Education introduced a new school type – the *new secondary school* (Neue Mittelschule). There are no more ability groups (“streaming”), and there are numerous other major changes concerning pedagogical and organisational aspects, bringing in *inclusive pedagogy* and a widely promoted *new teaching and learning culture*. Many urban secondary schools opted in to try that new school type during a test phase between 2008 and 2012. After the respective law passing the Austrian parliament in 2012¹², all secondary schools were gradually transformed into this new school form. In my school district, the remaining secondary schools in the remote areas started the conversion process with the beginning of the school year 2015/16, which meant that by the end of the school year 2017/18, the old school form became history. Consequently, there are presently two school types in Austria that offer an education for the lower secondary level (students between 10 and 14 years of age, not counting special schools): the academic secondary school (grammar school) and the new secondary school (see Fig. 2 on the opposite page for an overview).

Table 2 summarises and provides an overview of the most important milestones in the history of the Austrian school system from the point of view of secondary education:

TABLE 2 Milestones in the history of the Austrian school system

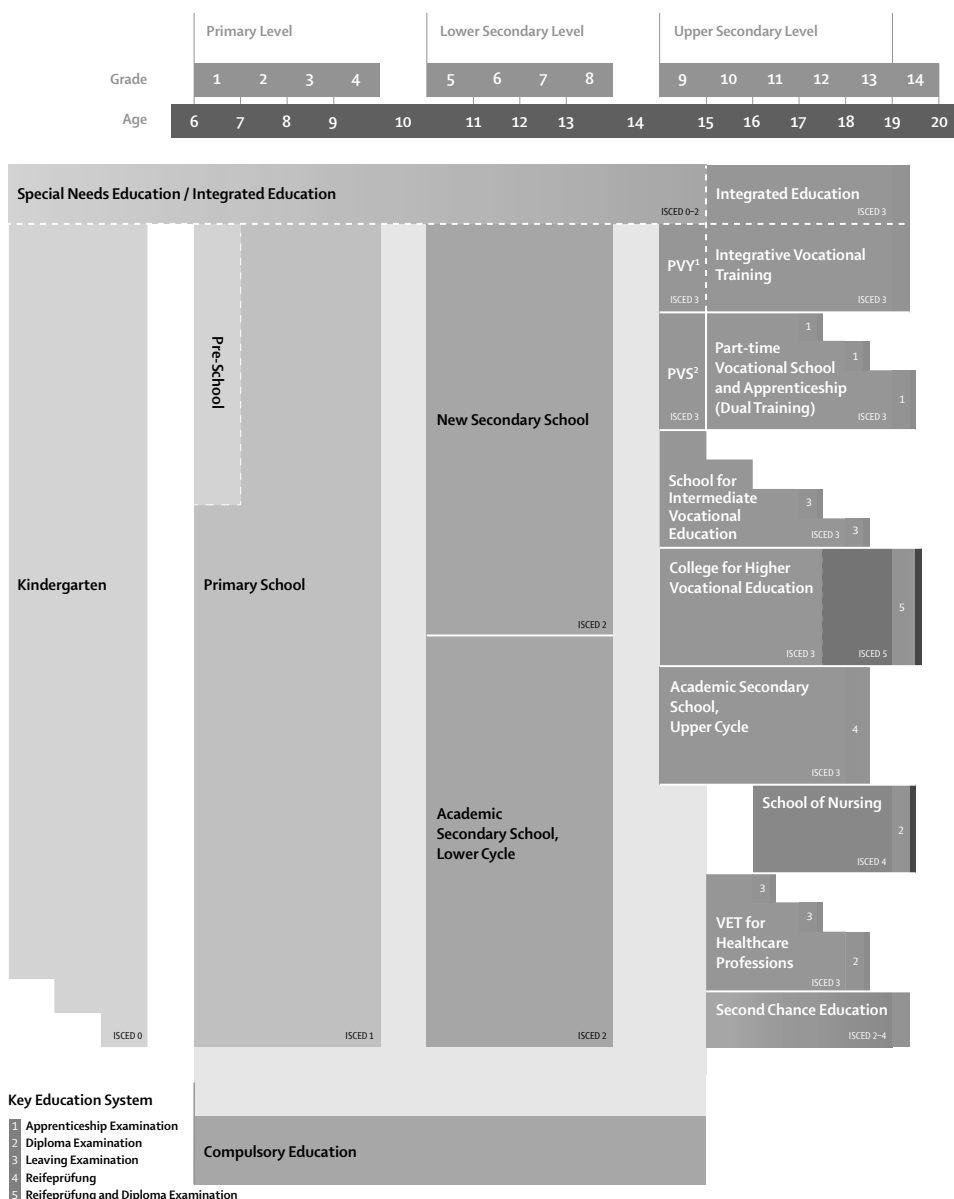
time	background	changes brought about
1774	general schooling	Empress Mara Theresia introduces public schooling (6 school years).
1869	primary schools	A law concerning the general public school system is passed (Reichsvolksschulgesetz). Eight years of school become compulsory.
1918	reform processes of the first republic	Otto Glöckl, head of the Vienna School Board, introduces a school reform that aims at equal rights for all children, regardless their gender and social background, proposing what would nowadays be called a comprehensive school.
1927	secondary schools	Secondary school is introduced as a school for 10-14 year olds, introducing streaming on class level.
1934/38	instrumentalisation	Schools become instrumentalised by Austrian and German fascism.
1962	school reform of the 2nd republic	Reform of the law concerning public schooling. Nine years of school become compulsory. Teacher training academies are introduced.
1982	streaming introduced	Students are no longer divided into A and B classes, but are taught in streams in German, Maths, and English.

¹² Bundesgesetzblatt für die Republik Österreich, Jahrgang 2012, Teil II (30. Mai 2012), 185. Verordnung: NMS-Umsetzungspaket

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2012	new secondary school	The new secondary school becomes a regular school, fully replacing secondary school by 2018/19. It seeks to establish a new teaching and learning culture. Radical reforms concerning teacher education and public services law concerning teachers are under way.
2015	new secondary school evaluated	The new secondary school only partly fulfils the expectations. In some regards, the results are very poor (Eder et al., 2015).

FIG. 2 Overview of the Austrian education system (primary and secondary level), 2018
(<https://www.bildungssystem.at/en>)



Evaluation of the new secondary school

The new secondary school was introduced without an extended evaluation of the piloting schools. Instead, the law concerning the new school form passed parliament¹³, and what was meant to become an evaluation of the test phase turned out to be more of a scientific supervision of the implementation phase (Eder, Altrichter, Hofmann, & Weber, 2015, p. 446). In February 2015, a first general evaluation of the new secondary school was published (Eder et al., 2015). It presented a rather ambivalent picture and showed that the new school form only partly fulfilled the expectations and hardly justified the expenses that had been invested into the reform project. Nonetheless, it also pointed out some potential of the new secondary school in comparison to its old form (Eder et al., 2015, p. 23 of the executive summary): Concerning *pedagogical aims*, the first two generations of *Neue Mittelschule* could not meet the expectations that were put into it. It did, however, at least not perform worse than the old school form. This is, of course, also due to the fact that it was designed as comprehensive school but was nevertheless in competition with the lower cycle of the academic secondary school. In terms of *personal perspective* – to what respect, from the students’ point of view, the school environment had become a better place – the new secondary school indeed revealed some improvement: Students reported a more adaptive teaching style, less violence and misbehaviour, and there was even a small increase in perceived well-being on the students’ side. In terms of interdisciplinary competencies (self concept, social competencies, learning strategies), there was only a slight increase. Finally, the *societal impact*, particularly with respect to educational justice and equality of opportunities, was only marginal.

Reform of the reform (and onwards): the 2018 »pedagogy parcel«

In the course of writing the thesis, a new government (the conservative so-called *turquoise-blue coalition*, formed by the Austrian People’s Party and the Freedom Party in late 2017) began to reform the previous school reform, issuing a *pedagogy parcel* (“Pädagogik Paket 2018”¹⁴) which passed parliament in December 2018, in steps becoming effective in the academic years 2019/20 and 2020/21. Amongst other changes, the measures issued in this parcel revoke the previous abolition of streaming by establishing a two-stream system in the school years 6–8 (2nd to 4th form of what is now termed “Mittelschule”), however leaving its organisation and realisation to the local school. What this means for the future remains yet to be seen (and depends – in the typical Austrian tradition – much on how a meanwhile *new* government, elected in 2019, now based on a coalition of *turquoise* and *green*, interprets and executes the pedagogy parcel).

13 Bundesgesetzblatt für die Republik Österreich, Jahrgang 2012, Teil II (30. Mai 2012), 185. Verordnung: NMS-Umsetzungspaket

14 https://www.parlament.gv.at/PAKT/VHG/XXVI/ME/ME_00083/index.shtml
Bundesgesetzblatt für die Republik Österreich, Jahrgang 2018, 101. Bundesgesetz: Pädagogik Paket 2018
https://www.ris.bka.gv.at/Dokumente/BgblAuth/BGBLA_2018_I_101/BGBLA_2018_I_101.html

3.2 SCHOOL OF THE PROJECT

The research site is a small rural *general* secondary school in Austria which was transformed into a *new* secondary school at the last possible cycle. In July 2018, the last pupils of the old school form left school.

History of the school¹⁵

The school was founded in the late 1960s, following attempts of the government of providing better secondary education in rural districts and in order to meet the demand for schools for the baby boom generation. As such, it also replaced the old long form of primary school (eight school years). In the beginning, due to shortage of space, some classes had to be taught in other buildings. The school was officially opened in 1974 and during its first years was a typical secondary school with two *class streams*, stream A offering English as foreign language, and stream B – being reserved for less gifted students – oftentimes being a rather small class. At times, otherwise gifted students ended up in stream B due to partial poor performance in distinctive areas, their talents only becoming manifest in their successful further professional careers. At that time, only a relatively small number of the local pupils went on to grammar schools, or technical or other colleges. Most students attended the pre-vocational school, followed by a vocational training. Few and gifted students directly went to academic grammar schools after primary school, which usually meant attending a boarding school, or else having to find a place to stay during the week.

The school became an all-day school in 1980, which means it started to provide cooked lunches and afternoon activities on a voluntary basis, a model that proved to be very successful and highly accepted. With no other secondary schools nearby, it practically was a comprehensive school for all students of that school area.

Streaming in three groups in German, Mathematics, and English was introduced in 1983 with the inception of the *new secondary school* (»Neue Hauptschule«, not to be mistaken with the *new secondary school*, »Neue Mittelschule«), shifting the differentiation from *between* classes to *within* classes. Especially in rural areas, this model proved to be very successful, providing a solid basis for the childrens' further education, as frequently collected data from the school leavers demonstrate.

Children with special needs came into focus in the 1990s when attempts were made to integrate as many of them as possible into mainstream schools, forming small *integrative* classes, and later, integrating those children into the main classes. Both forms were put to practice at the research site.

From the 1990s onwards, a decline in the number of students became noticeable. This meant that now, with sometimes only one class per age cohort, the three streams had to be organised in two groups – a further necessary move towards *inner differentiation*.

¹⁵ cf. Kramer (2014)

While still all or almost all of the pupils of the village attended the local secondary school, general secondary schools in urban areas suffered from massive losses, not only due to the decline in the birth rate, but also due to an increasing tendency towards attending the lower level of academic secondary schools. This tendency was all the more intensified due to the growing number of migrants attending general secondary schools in urban districts, oftentimes with little or no knowledge of German. This development led to a significant difference between rural and urban secondary schools, the former, due to the lack of nearby and competing academic secondary schools, being *de facto comprehensive schools*, and the latter running the risk of becoming *schools for the rest*, as they were infamously addressed.

In the first decade of the new millenium, the school building was renovated according to today's standards of thermal and acoustic insulation. Besides, the classroom walls were painted in stimulating colors, and the technical infrastructure was updated (wireless internet access, whiteboards/intelligent beamers, and more). During this time, also about half of the teachers that had been at the school since its founding (or almost as long as that) retired.

Today, the school is still best characterised as a well-run, typical rural secondary school that accommodates all or almost all children of the community between ten and fourteen years of age. Presently, about half of the school leavers go on to the upper level of academic secondary school or some kind of college for higher or intermediate vocational education. About half of the students attend a pre-vocational school and start vocational training afterwards. A few students have attended a year of preschool (which counts towards the nine years of compulsory general education) and thus enter vocational training directly after finishing secondary school.

The renovated school building presents itself open, friendly, and well equipped, though its original groundplan – a typical representative of school buildings erected in that period – has been changed only marginally. The local government has continuously invested in the local educational institutions (ranging from kindergarten and primary school to lower secondary school), which generally enjoy a high reputation amongst the community.

3.2.1 BECOMING PART OF THE SCHOOL'S HISTORY

I started teaching at that school in the late 1980s, which means that by now I am already teaching the offspring of my former students. I was appointed school principal in 2017, thus witnessing the last year of *Hauptschule* in my first year of running the school. Working at one and the same school for such a long time means that one becomes part of the school's history, especially in the case of a very small school with less than twenty teachers (presently, I have sixteen colleagues). Looking at the more recent history of the school thus also means looking at the part where I was able to actively contribute

RESEARCH SITE

to its development, a circumstance I currently share with about half of the staff. From a cultural-historical point of view, this means that I have been able to form the school just as much as the school has formed me – not only as a teacher, but also as a person, something I am reminded of whenever I look at the photo gallery in the main corridor of the school building.

4 OVERVIEW OF THE ORIGINAL STUDIES

This chapter gives an account of original studies that are reported in respective publications (referred to as articles 1–3). The aim of my thesis has been to deepen an understanding of the relationship of the ‘individual self’ and ‘collective subject’ in the formation of teachers’ transformative agency conceptualised within cultural-historical activity theory. The aim led me to move and oscillate between accomplishing an intervention project of school development as a joint activity of teachers and a theoretical discussion on individual needs deriving from existentialist and self-determination frameworks. These two lines of thinking are integrated in the original studies, which focus theoretically on different aspects of the *individual* and *collective* planes of activity. I start this chapter with a short description of the method of my project and the data collected in the course of the project. After that I present short summaries of the three original studies and, lastly, I reframe the research question for the discussion in chapter 5.

4.1 RESEARCH METHODOLOGY AND DATA

The project of school-based development took place in my own school, a small secondary school in Austria, as it was transformed into a new type of secondary school in the course of a nationwide school reform. The project was designed after the ideas of formative intervention methodology and carried out by its method of Change Laboratory (CL). The method has the foundational principles of *double stimulation* and of the *ascent from the abstract to the concrete* (Y. Engeström, Sannino, & Virkkunen, 2014). In the former, the first stimulus depicts a problematic situation. The second stimulus is a specific sign, a deliberately chosen conceptual lens, a cultural artefact, which is employed as a means for reflection and by which “the subject gains control of his or her action and constructs a new understanding of the initial problem” (ibid., p. 121). The principle of the ascent from the abstract to the concrete depicts a dialectical movement of thinking which “starts from the real concrete (the world as it presents itself to us) and proceeds through abstraction (separating from this whole the unit with which we think about it) to the thought concrete (the reconstituted and now understood whole)” (ibid., p. 122).

The CL method provides a “tool kit for envisioning, designing, and experimenting with new forms of work and a social setting in which this can be done” (Virkkunen & Newnham, 2013, p. 15). It encompasses a more or less cyclic movement through expansive learning actions, such as *questioning* and *analysing* a given practice and its developmental contradictions, and *modelling*, *testing*, *implementing*, *reflecting* and, finally, *consolidating* a new, culturally more advanced form of the studied practice (Y. Engeström, Rantavuori, & Kerosuo, 2013). The activity system model has a central role in the analyses made jointly by the participants, i.e. practitioners and researcher(s), providing them

with a tool of conceptualising everyday phenomena of work into elements of the system and identifying internal contradictions evolving in the system. A CL typically consists of 6–10 sessions that are a few weeks apart. The outcomes are expected to include a new model of activity and consequential material changes in the objects, instruments, rules and division of labour within and between the collective activities (Virkkunen, 2006).

The project – initiated, designed and facilitated by myself – took place over a period of roughly two academic years comprising nine school development conferences (sessions). The data were collected mostly prior to and in between the sessions. I used several different types of data gathering which included: narrative interviews with members of the teacher team; self-reflective reports of the teachers concerning their motivation for becoming, and still being, teachers; an online questionnaire (a translation of Deci and Ryan’s *Basic Psychological Needs at Work Scale*); interviews utilising *Ultimate Meanings Technique* (UMT), a special interview technique aimed at revealing structural aspects of the participants’ worldviews (Leontiev, 2007); relevant Austrian legal texts (from 1774 onwards); the current documents concerning the new secondary school; and newspaper articles that triggered discussion in the staff room. The CL sessions itself were not audio- or video-recorded (unlike usual in CL studies). More detailed features of the collected data are presented in Appendix 1 (p. 52).

Having a connection to my theoretical interest in the formation of transformative agency (see 2.3), the use of the CL method had three apparent features which deviate from the general mode of using and investigating the method. First, as the data gathering already informs, the teachers were put to reflect their personal paths as teachers, their beliefs and how they understand and position themselves to school transformations. This kind of mirror data was used while working on a task of challenging and reformulating the school’s guiding principles (educational ideas), and local policy (school profile document). The activity system model was playing a role of a conceptual lens and means of mastering oneself being oriented at both the problematic situation (school reforms) and the people reflecting on it (personal and collective development). Second, the chosen types of data gathering were acknowledging the interventionist character also while collecting data. Individual and group interviews were considered *developmental*, affecting all interlocutors (Packer, 2018). In line with the method of developmental dialogue (Heikkilä & Seppänen, 2014), the interviews aimed at helping the participants to “question their current way of thinking” and “to enhance cooperative skills in work communities”, and to open up “the relationship between the individual employee and his or her work activity and personal interest towards work and the collective activity of the work community” (p. 8). Third, instead of the partnership between the researcher(s) from outside the school and teaching practitioners, I was experiencing the roles of being a researcher and a facilitator of CL sessions, a member of the team of teachers, and a teacher.

4.2 »INQUIRY LEARNING ARRANGEMENTS AND EXPANSIVE LEARNING: A TENTATIVE DIALOGUE«

STUDY 1 dealt with a unit of analysis in conceptualising learning. It was published in a book (Reitinger, Haberfellner, Brewster, & Kramer, 2016) which examines the *Theory of Inquiry Learning Arrangements* (TILA). Inquiry learning has become one of the prominent topics of the current reform movement in the Austrian educational system. Building on motivational psychology (Ryan & Deci, 2004), neuroscience (Roth, 2009), and Dewey's theory of inquiry (Dewey, 1938), TILA takes a self-determined, individual approach to inquiry learning. The study juxtaposed the TILA approach to learning with an approach of expansive learning which underlines learning as a collective activity drawing upon the cultural-historical activity theory (Engeström, 2015). When TILA focuses primarily on the learner and takes care of arranging everything in order to provide an authentic inquiry learning environment, activity theory takes a broader, systemic approach and seeks to trigger and foster transformation of all constituents of the activity system. It is not the arrangement around the learner, but the *re-arrangement* and *transformation* of the whole activity that marks the cultural-historical point of view. This transformation, however, always includes an aspect of personal learning. By opening up a tentative dialogue between these two approaches the study discussed their similarities and conceptual differences in order to bring different scientific approaches and cultures of practitioners to a joint problem solving and future-oriented discussion for deepening an understanding of learning. The study identified the inquiry approach as *vertical* (from incompetence to competence) and the expansive one as *horizontal* movements of human development in learning. With respect to the local (Austrian) culture of TILA, the study suggested an open dialogue with a more situated, community-based and societal position, as "[n]either the external world nor the human being in isolation is responsible for developing knowledge; rather they interact", as Postholm (2015, p. 44) puts it.

Study 1 offered cognitive resources for myself and my teacher colleagues to start a school development project as a collective activity of learning within the framework of formative intervention methodology.

4.3 »PROMOTING TEACHERS' AGENCY: REFLECTIVE PRACTICE AS TRANSFORMATIVE DISPOSITION«

STUDY 2 discusses the topic of reflective practice from the perspective of six core existentialist assumptions which underlie the theoretical definition of this practice provided by Thompson and Pascal (2011). These are: critique of essentialism, being-in-the-world, phenomenology, rejection of the unconscious, dialectic of subjectivity and objectivity, and the progressive-regressive method. The study searched for an answer to the question of how reflective practice can be conceived of as something that extends beyond the individual teacher and that encourages both individual and collective development in

educational settings. By moving between such an existentialist perspective of reflective practice and activity-theoretically informed intervention, the cross-fertilisation shed light upon the relationship between existential needs and object-oriented activity and, hence, turned the attention of the study to the theory of motive in activity. Departing from D. Leontiev's (2012) cultural-historical conceptualisation of an individual in the frame of three existential levels of a human relating to the world – the biological, the social, and the personal level – for approaching the source of human motivation, I became able to integrate existentialist need dimensions in both their individual forms represented by the basic psychological needs provided by self-determination theory (Deci & Ryan, 2000) as well as their collective forms discussed in the framework of activity theory. As an outcome of this study, I propose a model in which the individual need dimensions are mapped onto a system of collective activity, i.e., the activity system model as introduced by Engeström (2015, p. 63). Through the relations of the model, existential imperatives (metanecessities) of human behaviour are addressing the importance of the basic psychological needs, particularly in investigating learning activity.

The above theoretical considerations were a part of the contents of the sessions in the school-based development and became connected to discussions of the teachers' reflective accounts of their own motives and visions (collected by interviewing teachers individually). In line with the idea of formative intervention, the theoretical model of activity system and the model elaborated with the theory of self-determination were introduced in the project as *second stimuli*. They functioned as a common ground in discussions dealing with multiple practice-bound experiences of individual teachers.

4.4 »TEACHERS' BELIEFS AS A COMPONENT OF MOTIVATIONAL FORCE OF PROFESSIONAL AGENCY«

STUDY 3 focused on teachers' beliefs and core assumptions – defined as worldviews in the context of human interaction with the world – for addressing the question of what constitutes the 'mental realm' of a worldview in general and in the educational profession. Worldviews were conceived as resource that teachers have, from which they may contribute to further development of their profession and a vision of what education should be, having been created by the profession. Appropriating a cultural-historically informed perspective based on the methodology of cultural mediation (Arievitch & Stetsenko, 2014), worldviews were seen deriving from achievements of joint activities in which they constituted an advanced and complex form of cultural means, a set of semantic-referential meanings described as 'mental'. In such a view, worldviews were conceived in existential and relational terms, instead of being essential entities, and were in the paper (article 3) theoretically discussed with the help of Wartofsky's (1979) notion of tertiary artefact as imaginary world constructions.

The paper included an analysis based on the data of an experiment of using a special interview method (Ultimate Meanings Technique, UMT). The UMT interview was originally designed as a technique for personality investigations, examining “the system of a person’s beliefs about the goals and meanings of human life” (Leontiev, 2007). In the project, the interviews were carried out in pairs of teachers facilitating each other to improve an awareness of their own worldview orientations. I made the interviews public and available for a joint discussion and reflection in the form of *meaning trees* (following the instructions of UMT). In the frame of formative intervention, the findings of interviews were seen to play a role of *mirror*, acting as first stimulus, providing a task of linking between individual and professional views, i.e., to move from individual interviews to professionally shared meanings associated with the school’s new policy document. For articulating this move, the intervention used existential dimensions as *second stimuli* (based on Study 2) with the help of which the UMT findings were discussed and negotiated.

4.5 REFRAMING THE RESEARCH QUESTION

The individual studies approached the topic of the thesis in a dualistic manner and dealt with the following research questions: Is learning to be approached with an individual or collective unit of analysis? How can reflective practice extend beyond the individual teacher and contribute to collective development in educational settings? Does mental content of worldview draw from subjective or objective reality? Table 3 (next page) provides an overview of the articles and their contributions to theorising in the context of my own journey of expansive learning.

Having an interest in understanding the motive formation of collective agency of a teachers’ team, I aim – in the following theoretical discussion and summary – at making more visible the relation between needs and activity, based on the assumption that this relation opens up in more depth the psychological aspect of an individual’s participating in and contributing to learning processes dealing with an object of collective activity.

TABLE 3 Overview of the articles and their contributions to theorising

article/study	research question	method	conclusions
study 1 (2016) Inquiry learning arrangements and expansive learning: a tentative dialogue	Is learning to be approached with an individual or collective unit of analysis?	theoretical	In theorising learning, both units of analysis (individual self and collective subject) not only complement one another – they are mutually dependent.
study 2 (2018) Promoting teachers' agency: Reflective practice as transfor- mative disposition	How can reflective practice extend beyond the individual teacher and contribute to collective develop- ment in educational settings?	theoretical double stimulation	CHAT methodology responds to an existentialist theoretical framework for reflective practice as introduced by Thompson & Pascal (2011). The integration of existential levels (Leontiev, 2012) into Enge- ström's (1987; 2015) activity system provided a second stimulus for a focus on collective reflective practice while also allowing for an individual perspective.
study 3 (2019) Teachers' beliefs as a component of motivational force of professi- onal agency	Does mental content of worldview draw from subjective or objective reality?	empirical Ultimate Meanings Technique (UMT); double stimulation	The CHAT point of view suggests conceiving worldviews in existential and relational terms, culturally mediated and traceable to meaningful joint activities (Arievitch & Stetsenko, 2014), repre- senting tertiary artefacts (Wartofsky, 1979) as imaginary world constructions.

5 THEORETICAL DISCUSSION

In this chapter, the question concerning the relationship between the ‘individual self’ and the ‘collective subject’ in the formation of teachers’ agency is addressed in detail. It starts with a discussion of the notions of *need*, *motive*, and *object* in activity theory (5.1). The discussion continues with D. Leontiev’s (2012) insights of human motivation based on his examination of need theories from an existential and cultural-historical perspective (5.2). In order to make visible the relation between needs and activity in the activity system model elaborated by Engeström (2015) I propose a tentative model in which basic psychological needs, basing on D. Leontiev’s interpretation, are integrated into the structure of collective activity (5.3). Applying the tentative model to educational activity, I return to the question presented in chapter 2 (see 2.2) why education seems to be centred around the basic ideas of acculturation, socialisation and individuation (5.4). For summarising the chapter, I discuss teachers as learners in the formative intervention and their transformative agency as an outcome of the project (5.5).

5.1 NEED, MOTIVE, AND OBJECT

For theorising on the notion of need within an activity-theoretical framework, the concepts of *object* and *motive* are central. They thus mark the starting point of this discussion.

A. N. Leont’ev (1974, p. 13) distinguishes between needs (or desires) that have not yet found concrete objects, and those which have become *objectified*. He addresses the former as one of the necessary *preconditions* of activity, as temporary *need states*, and attributes the latter superior prominence, calling the objectification of a need an extraordinary act:

In the psychology of desires we must, from the beginning, distinguish between desire as an internal condition, as one of the necessary preconditions for activity, and desire as that which directs and regulates a subject’s specific activity in the object-type world. Only in this latter function is a desire also an object of psychological knowledge. In the former case a desire appears only as a state of need that in itself can evoke no specific directed activity: its function is limited to activating the relevant biological functions and generally arousing the motor sphere, which is expressed in hyperkinesis and directionless, searching movements. *Only after a desire has “met” an answering object can it begin to direct and regulate activity.* The meeting of a desire with an object is an extraordinary act, an act of objectifying the desire – of “*filling it up*” with content drawn from the surrounding world. It is this that carries desire to a properly psychological level. (A. N. Leont’ev, 1974, p. 13, my accentuation)

In *Activity, consciousness and personality*, A. N. Leont'ev (1978, p. 161) introduces the notion of *motive*:

The fact is that in the subject's needy condition itself the object that is capable of satisfying the need is not sharply delineated. Up to the time of its first satisfaction the need 'does not know' its object; it must still be disclosed. Only as a result of such disclosure does need acquire its objectivity and the perceived (represented, imagined) object, its arousing and directing activity of function; that is, it becomes a motive. (Leont'ev, 1978, p. 161)

The 'meeting of a desire with an object' is a cultural-historically mediated process which makes the desire 'concrete' in terms of object which directs and regulates activity and thus becomes its motive. As such, it is a central aspect of an activity-theoretical framework. On the other hand, if need in its unobjectified form appears as a *prerequisite* for activity and stops being that as soon as the subject begins to act, how can it be a condition (a *prerequisite*) of activity, but not its initial point of realisation? A. N. Leont'ev (1978, p. 163) distinguishes two major cyclic schemes that explicate their relationship. They contradict each other in which each of them takes the initial point: *need* → *activity* → *need*; and *activity* → *need* → *activity*. In the first, needs precede activity. This is the starting point for most of the classical need theories, ascribing explanatory prominence to needs. In the second, needs are produced in object-oriented activity, the latter being the decisive factor:

Thus we have before us two major schemes expressing the connection between need and activity. The first produces the idea that the initial point is need and for this reason the process as a whole is expressed in the cycle: *need* → *activity* → *need*. [...] The other scheme which contradicts the first is a cyclic scheme: *activity* → *need* → *activity*. This scheme [...] is also fundamental for psychology, in which 'no conception based on the idea of a single mover, in essence preceding activity itself, can play an initiating role capable of serving as an adequate basis for the scientific theory of human personality'. (Leont'ev, 1978, p. 163)

So, what comes first, need or activity? Associated with Leontiev's insights, this question has been taken up by Bratus' and Lishin (1983). They start from the aforementioned cyclic paradigms and claim that these do not require to be seen in opposition but rather can be interpreted as *continuous chain of needs and activity*, one constantly being transformed into the other, rendering the discussion concerning the initial point irrelevant. The authors refer to A. I. Meshcheryakov (1972, p. 327) who states that "every activity occurs [...] only if there is also a need corresponding to it, and need develops as part of the activity corresponding to it". Bratus' and Lishin argue that through the activity that arises on the basis of a need, an initial need is reproduced not as such, but in a modified form. This modified need then gives rise to a modified activity, leading on to a consecutive chain of slowly changing and evolving needs and activities. The authors, however, also distinguish between *unobjectified need states* and *objectified needs*. In their schema (see Fig. 3), they identify three principal zones: In the zone of the need state (1), a need still has not found

its fitting object out of a number of possibilities. In the zone of motive-formation (2), an object-motive fitting for a particular need state has been found. Through this discovered motive, the need stimulates activity, in the course of which the need is reproduced, albeit in a somewhat modified form (zone 3), bringing forth a slightly evolved activity, and so on. At some point in this zone, a crisis may require more than just a modification of the need or the activity. The chain of activities and needs breaks, and a new need state emerges, requiring resolution.

FIG. 3 Zones of need states, motive-formation, and need transformation (Bratus' & Lishin, 1983, p. 44)

ZONE 1 need state (0)	ZONE 2 motive-formation	ZONE 3 transformation of need and activity	ZONE 1 need state (1)
$\dots \rightarrow Sn0$ <div style="display: inline-block; vertical-align: middle;"> $\left[\begin{array}{l} O_1 \\ O_2 \\ \dots \\ O_n \end{array} \right.$ </div>	$\rightarrow N-O(M) \rightarrow$	$N0-A0-N1-A1-N2\dots$	$\rightarrow Sn1$ <div style="display: inline-block; vertical-align: middle;"> $\left[\begin{array}{l} O_1 \\ O_2 \\ \dots \\ O_n \end{array} \right.$ </div>
			$\rightarrow \dots (3)$

What is of particular interest here is what makes the difference between the *modifications* in zone 3, still maintaining a successful sequence of need and activity, and *crises* that disrupt the chain and lead to a new need state (see Bratus' & Lishin, 1983, p. 42) – a question that quite well resembles the discussion at school whether a 'major' reform was really needed. Even in a seemingly smoothly ongoing activity, the *need state* never seems to be far away. It may even be actively brought about by deliberately destabilising an activity in order to provoke the emergence of possibility knowledge (Engeström, 2007). In this respect, it could even be perceived as kind of *test* or *play mode*, testing out and playing with alternative objects while not (yet) leaving zone 3: Switching back and forth between unobjectified need states and objectified needs might help to at least hypothetically consider alternatives, and thus contribute to the directions that the modifications in zone 3 take.

5.2 DMITRY LEONTIEV'S INTEGRATED MODEL OF NEEDS

As already came out in section 2.2, Dmitry Leontiev (2012) contributes to cultural-historical research on the relation between need and motive, and motive formation by providing an approach which

departs from the individual's relating to the world, rather than from an isolated organism situated in some environment. A person's interaction with the world mediated by culturally transmitted tools, rather than inborn potentialities or environmental pressures, is considered the source of mental and personality development, the source of human motivation. (Leontiev, 2012, p. 15)

Integrating “the ideas of Fromm, Nuttin, Maddi, Diligenski, and Deci and Ryan in a present-day context” (p. 21), Leontiev presents a model of human relating to the world, i.e., human connectedness to the outside world. This model comprises a kind of hierarchical order of concepts. Firstly, the foundation of a human relating to the world follows from the philosophical considerations bringing forth the idea of *existential needs*, “the imperatives stemming from the awareness of one’s unique position in the world” (p. 16) and expressing the special human nature and way of being, different from the nature and way of being we find in animals. Secondly, this connectedness to the world takes place at three distinct and mutually independent levels of a human relating to the world, each of which produces a dynamic of its own. These levels are the *biological*, the *social*, and the *personal* level. The third feature of the model are *metanecessities* which refer to “the objective peculiarities of the basic structure of relationships with the world, a prerequisite for all the specific motivation emerging at the given level” (p. 22). Being inherent on their respective levels, these objective metanecessities are:

- actualising potentialities and relating to the environment (on the biological level)
- one’s establishing (harmonious or, at least, satisfactory, or adjusted) relationships to the social groups and communities one belongs to (on the social level)
- personal autonomy and self-determination (on the personal level)

Leontiev underlines the meaning of the personal level because without autonomy and self-determination “no existence at the personal level seems possible” (p. 22). The metanecessities make possible, following Leontiev, to connect an existentialist view together with a psychological understanding of needs as proposed by Deci and Ryan (2000). He (2012, p. 22) writes,

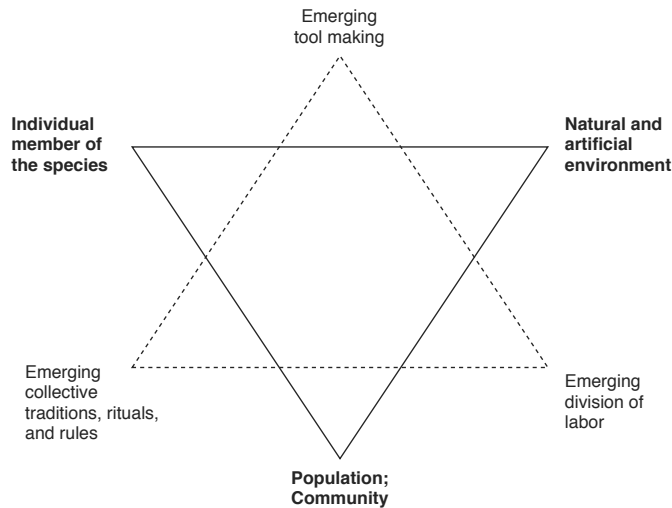
It is difficult to overestimate the contribution of the self-determination theory (Deci & Ryan, 2000): all the three basic needs postulated by SDT refer to the metanecessities described above. Indeed, competence is a very important aspect of any relating to the environment, the capacity to produce desired outcomes; relatedness is a different name for social belongingness; and autonomy is the metanecessity of the level of personal existence.

It is important to emphasise that D. Leontiev does not criticise psychological or individual aspects of SDT; however, as stated above, he opposes seeing needs as ‘inborn potentialities’ or ‘environmental pressures’ but instead considers them relevant in the framework of CHAT. To sum up, D. Leontiev’s model can be perceived as a theoretically argued, analytical unit of individual which does not separate the individual from the world but views it as relating to the world drawing upon the cultural-historical approach to mind.

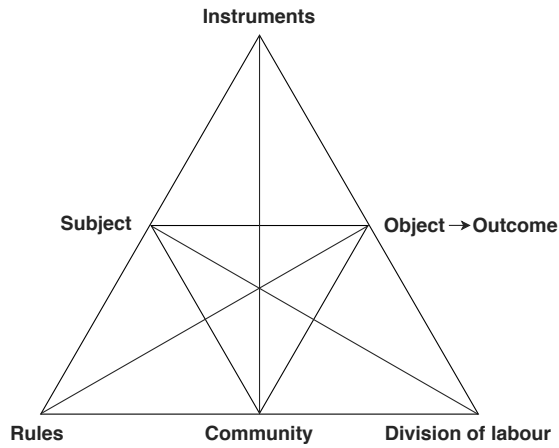
5.3 INTEGRATING NEEDS AND ACTIVITY

In my thesis, I have considered D. Leontiev’s approach as a possible link between individual and collective planes of object-oriented activity. I was originally inspired by Engeström’s (2015, p. 61) deliberations concerning the transition of the structure of activity from its *animal* form to its *human* form. The general structure of the *animal* form of activity is characterised by an individual member of a species having to relate to the natural environment and to other members of the species, thus forming a triangular relation comprising individual survival, social life, and collective survival (ibid., p. 60). Figure 4 illustrates the transition from animal to human form of activity through *ruptures* on each side of this triangle, marked by emerging tool making, emerging collective traditions, rituals and rules, and of emerging division of labour:

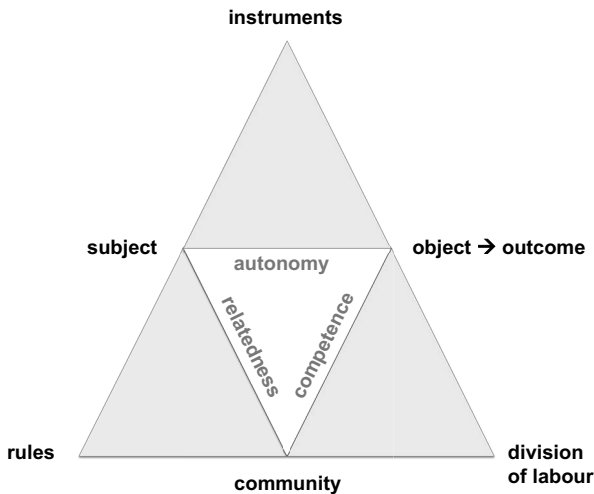
FIG. 4 Structure of activity in transition from animal to man (Engeström, 2015, p. 61)



The breakthrough into human cultural evolution requires, as Engeström (ibid., p. 61) continues, that “what used to be *separate* ruptures or emerging mediators become *unified determining factors*” and at the same time “what used to be ecological and natural becomes economic and historical” (original accentuation). The specifically human form of activity addresses both the mastering of nature and the mastering of man’s behaviour, which are “mutually linked, just as man’s alteration of nature alters man’s own nature” (Vygotsky, 1978, p. 55). The structure of activity, now formed by the relations between subject, object, and community, is culturally mediated by tools, rules and division of labour. This system – Engeström’s triangular activity system – is known as a unit of analysis of collective activity (Fig. 5).

FIG. 5 Structure of human activity (Engeström, 2015, p. 63)

Like Engeström's activity system, also D. Leontiev's model of existential needs as imperatives for expressing the special human nature and way of being is a system of relations depending upon and conditioning each other. I became interested in how Leontiev's levels of human existence can be allocated to the respective relations of Engeström's activity system. In Figure 6, I present tentatively an integrative model in which psychological needs (metanecessities) are placed inside the collective activity system forming the 'inner' triangle (subject – community – object) which is dialectically related to the collective activity system.

FIG. 6 An integrative model: Basic psychological needs integrated into an activity system¹⁶

¹⁶ In this summary, I have elaborated more the integrative model first presented in Study 2 by swapping the positions of 'competence' and 'autonomy', due to and resulting in my deepening insight in the nature of collective activity.

This integrative model aims to contribute to making use of the multiple facets of the activity system by providing a perspective of the wholeness of the system from the inside, theoretically from an individual's perspective. In this view, the 'inner' triangle is related to the collective activity system through three mediational systems ('outer' triangles) which are: subject – object relation mediated with instruments (personal level), community – subject relation mediated through rules (social level) and object – community relation mediated through division of labour (biological level). In mutual dynamics of the levels of existence, a person “meets the *world* at large” only at the personal level in which autonomy appears, as Leontiev (2012, p. 22) states. At the two other levels of existence, people are dealing “just with the physical and social *environment*” (ibid.; original accentuation).

My starting point through the thesis has been to trace the meaning of the relationship between need and activity in defining sources of motivation. This relationship is commonly addressed in activity theory by putting the emphasis on “the act of objectifying a desire”. As it came out in section 5.1, A. N. Leontiev introduced this notion as related to the distinction between two types of need: a desire as an internal condition, as one of the necessary preconditions for activity, and a desire as that which directs and regulates a subject's specific activity in the object-type world. In the former case, a desire appears only as a state of need that in itself can evoke no specific directed activity and that is limited to activating the relevant biological functions. My study suggests that D. Leontiev's need theory can be explored as an extension of the first type of need by adding all levels of existence to imperatives of human behavior and, particularly, underlying the special significance of the personal level in relating to the world. In this frame, metanecessities (basic psychological needs) are conceived as necessary preconditions for human activity being “a *prerequisite* for all the specific motivation emerging at the given level” (D. Leontiev, 2012, p. 22; accentuation added) and producing a dynamic of its own. The inner triangle of the model can be seen to represent the first type of need focusing on individuals inhabiting inherently in the system. The second type of need brings about, following A. N. Leontiev (1974, p. 13), the focus on “the meeting of a desire with an object” and how the object becomes filled up with content drawn from the surrounding world. Becoming a motive of activity, the object refers then to something at which human efforts are directed. In the integrative model (Fig. 6), the outward triangles can be seen representing the structure of human relations with the world, continuously changing in history and being reinterpreted.

Based on the theoretical insights of A. N. Leontiev, Kaptelinin (2005) offers the idea that we can accept two different positions (individual and collective) on activity, depending on how the *object* becomes conceptualised. He uses the term of “individual's activity” referring to the object (*predmet*) of activity carried out by an individual and related to motivation. This individual position relies conceptually on the hierarchy of motives (see A. N. Leontiev, 1978), dissociating “between individual's activities and actions, that is, between motives and goals” (Kaptelinin, 2005, p. 12) on the individual level, whereas, in the case of collective activity, the object is introduced through the “subject – object”

distinction (i.e., as *objekt*) within the division of labour. Depending on which position is chosen, the main emphasis is either put on “individual activities and motivation” (A. N. Leontiev), or on “collective activities and production” (Y. Engeström) (*ibid.*, p. 11). Kaptelinin concludes that the positions share a number of fundamental theoretical assumptions and can be considered complementary perspectives on activity theory.

The main claim of my thesis is that both perspectives can be applied *simultaneously* by integrating Engeström’s collective model with an individual approach that is based on D. Leontiev’s philosophical and theoretical considerations of the human relating to the world. Both positions are then accommodated by interpreting individuals as the internal “elements” of an activity system calling for more attention to the psychological and subjective mechanisms allowing for individual participation involving commitment to collective activity (R. Engeström, 2009).

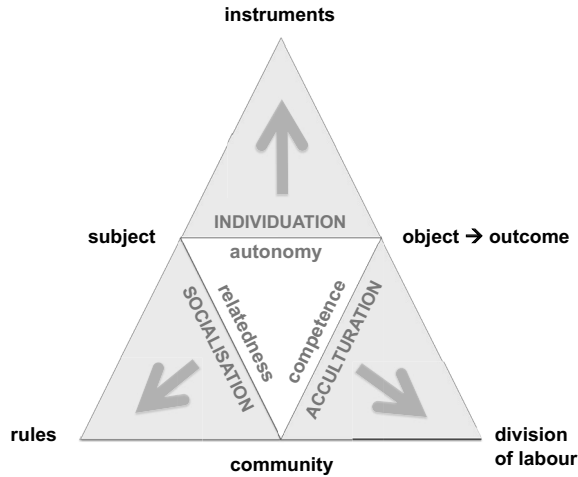
5.4 A MODEL OF EDUCATIONAL ACTIVITY

The sketches and ideas of the model of “basic psychological needs integrated into an activity system” (Fig. 6) were produced in the context of formative methodology which uses the activity system model as a conceptual lens and means of reflective practice. The aim of using models in the formative project is to learn and master oneself being oriented at solving the problematic situation and acting for thinking. In my case, the problematic situation was a national school reform and how the teachers relate themselves to it and interpret its meaning in the school by re-articulating jointly their school’s profile document which sums up the school’s core duties and mission statement.

In constructing an understanding of educational activity with the help of research literature, I had found three educational ideas which were seen as societal demands or functions of education. These were socialisation, acculturation, and individuation which I interpreted in the frame of three existential dimensions in chapter 2 (see Table 1, in 2.2). By taking a cultural-historical view to individual elaborated in the integrated model of existential needs (D. Leontiev), I became interested in the question whether “meta-necessities” (explicated in the model) can provide theoretical means to reconsider the relationship between societal demands and individual needs from the point of view of existential dimensions. The question became relevant in the context of viewing education as a special societal activity with the *motive to mediate* a person’s interaction with the world at large. This view led me to place the educational ideas into the existential levels being allocated to respective relations of the activity system model (Engeström). The model (see Fig. 7) depicts a double-sided context for conceiving educational activity: the ‘inner triangle’ represents existential imperatives and necessary preconditions of educational activity; the ‘outward triangles’ perform a context in which educational ideas depict the socio-historically constructed expectations of education. In the context of the outward triangles, the demands of education, although being intersected between each other, have dynamics of their own resulting in potentially

conflicting directions of what is and can be desirable in education (see Lamm, 1976; Egan, 2008; Biesta, 2015a). Figure 7 shows the model (Fig. 6) added with the ideas of education (the contradictory potential is represented by the arrows in the model).

FIG. 7 A model of educational activity



Depending on who is considered as subject of educational activity (teachers or students) in the context of developmental progression of education, the model (Fig. 7) points at both the *teaching* and the *learning* activity. In my school-development project, both perspectives were of relevance, as a deeper understanding of one inevitably is also relevant for the other. By taking a teacher's perspective in the thesis, a teacher is a member of social units of educational profession having competencies and views shaping her or his identity and interaction with the world. The object of activity in education becomes constructed by filling the ideas with concrete content drawn from the historically changing world. The professional views indicate also how 'individuation' as an educational need is conceptualised and conceived, as came out in the project. In resolving the task of re-articulating the school's core duties, the views moved between traditional individuation conceiving 'an individual' as an object and outcome of teachers' practices, e.g., in assessing a student individually based on academic performances in classroom or through tests (see also R. Engeström, 2014) and subjectification, the term Biesta uses (see Table 1) for referring to the change of meaning of an individual in educational activity. By replacing the term, Biesta (2015b, p. 85) wants to address the qualities of being a subject. This new signification of an individual in educational activity points to the qualities that "are often captured in such notions as autonomy, independence, responsibility, criticality and the capacity for judgement". In line with D. Leontiev's integrated model, Biesta distinguishes the notion of identity from subjectification (personal existence) and locates it to socialisation (social existence). Subjectification addresses autonomy and self-determination of learners in using creatively socio-historical experiences of culture.

In the integrated view of education seen through the co-evolution of human motivation and the objects of activities, a person's interaction with the world is functioning as the source of mental and personality development (R. Engeström & Käyhkö, 2021). Challenging essentialist premises of mind, cultural-historical theory approaches social and psychological phenomena as processes that exist in the realm of relations and interactions – that is, “as embedded, situated, distributed, and co-constructed within contexts while also being intrinsically interwoven into these contexts” (Stetsenko, 2008, p. 477). Instead of *adaptation*, this view leads to a *transformative stance* on human development in which people not only transform and create their environment but also create and transform their mental life in gaining self-knowledge and knowledge about the world. In human evolution and history of cultural development, the contents of educational demands are re-emerging and changing and become negotiated as an object of education on its all levels, that is, of national policy, the school, and the teachers' profession.

5.5 TRANSFORMATIVE AGENCY

At the outset of the overall study, the perceived loss of agency due to experiencing prescribed top-down school reform played a role of springboard for the project of school-based development. Oscillating between my theoretical themes bound to the educational ideas or demands in society and my ultimate interest in teachers' agency for change being examined as a concrete activity with and in the project led me to focus on teachers' subjective realities as professionals with commitment and accountability to a vision of what education is or should be. The teachers were invited with several research methods to reflect their personal paths as teachers, their beliefs and how they understand and position themselves in relation to school transformations.

The focus on the formation of teachers' agency for change *as an activity* has been sustained by the approach which views mental processes (e.g., thinking, interpreting, reflecting, experiencing) as activities while being at the same time specific components of productive activity in interacting with the world. Having examined 'subject' in expansive learning projects from the perspective of using the model of activity system as a conceptual tool of the participants' thinking, R. Engeström (2009) makes a distinction between the activity being researched and developed and the activity of learning in the project. When she focuses on learning, she appropriates the idea (Lompscher, 1999) to use three lines of logic “for solving the contradiction in learning activity”, according to which learning presupposes adequate activity, but that activity cannot emerge and develop outside of the respective learning process. These lines of logic, based on the object-relatedness of learning, are (in parentheses complemented by respective features of formative intervention): that of the “subject matter domain” (the activity being researched), that of the “acquisition process” (the workplace learning activity using expansive learning strategy), and that of the “psychic development” (experiencing and sense-making activity under-

stood through subjective mechanisms). Her methodological point is that object-relatedness makes “each line of logic to require a particular methodological attention based on the same ontology” (Engeström, 2009, p. 262).

Transformative agency is defined in the frame of expansive learning as an outcome of expansive learning processes which can be seen to benefit from a research design which allows to examine ‘things’ in “their reflective context of being outside and inside of human mind at the same time” (R. Engeström, 2014, p. 132). This double framing from the perspective of ‘subject’ as a learner can be likened to and demonstrated as being reflectively positioned between two opposing mirrors: While looking at one mirror and analysing what lies *before* you (analysing the subject matter domain), you realise that what you see (and can see) is actually your *background* – a colourful texture of experience that has accumulated over the years of practice within the activity. Conceiving yourself as being embedded in the picture, positioned in front of that background, and amidst other participants with an assumed similar experiencing but with their personal sense making, makes subjective mechanisms discernible as inherently necessary moment within an unfolding learning activity of which object is collective. Such an understanding, I argue, is underlined by the integration of the inward perspective (the ‘inner’ triangle) with the collective activity system in Fig. 6.

Focusing on the subjective mechanisms allows me to turn to the question of motive as related to activity in formative intervention. I discussed in section 5.3 how Kaptelinin (2005) uses the term of “individual’s activity” referring to the object of activity carried out by an individual and related to motivation. In this individual context, he raises a question about activities that have multiple motives and points to inconsistencies in A.N. Leont’ev’s (1978) writings when dealing with poly-motivated activities. While acknowledging the possibility of an activity to have several motives at the same time, Leont’ev’s analysis, following Kaptelinin, “appears to be based on an implicit assumption that there is a 1:1:1:1 correspondence between activities, needs, motives, and objects” (Kaptelinin, 2005, pp. 13–14). This means that in the case of *several needs* coming into conflict this implies *several possible activities* of which, due to a hierarchy of motives, however, only one can be carried out (p. 15). Or, in the case of several conflicting needs *within one activity*, Leont’ev’s approach would suggest only one of the competing motives to pass the selection process, with all other motives being rejected. However, “[a]ctivities, which have *several motives*, are likely to be *shaped by the whole configuration of effective motives*, not just one of them (Kaptelinin, 2005, p. 16, accentuation added). Coming from another direction, from the perspective of collective activity, R. Engeström (2014, p. 132) has also pointed to the problem of the hierarchical organisation of motives, in which the motive as an object of activity locks up subjective sense inside activity and serves object-oriented activity. Contesting a secondary meaning of personal sense in the conceptual framework of activity, Engeström refers to Bratus (2005) who argues that sense is not so much object-related as *inter-object*. Its synonym is ‘connection’, or ‘subjective connection’, which is subjec-

tively established and personally experienced connection between people, objects, and phenomena that surround a person in time and space. In regard to an activity system, inter-object turns the attention to poly-motivated realities which evolve in a joint activity.

In keeping the poly-motivated activity in the centre, we can use both perspectives for the approach in which an individual can have several motives which correspond to needs. In Kaptelinin's framework, the motives affect an activity which, however, "does not have a direction and does not really start until the object of activity is defined" (p. 16). Because an activity is likely to be shaped by the whole configuration of effective motives and not only one of them from the perspective of an individual, the object of activity needs to be designed in order that a person can act (effectively). Kaptelinin approaches this process of constructing and reconstructing the object of activity by sketching four criteria – *balance*, *inspiration*, *stability*, and *flexibility* – which the process should meet "to qualify as a successful design" (p. 17). In the centre of formative intervention is the object construction in which participants as learners go beyond 'the known' by their creative explorations and knowledge building in circumstances in which problems arise from a changing world. The other side of the creative object construction is breaking away and designing responses which challenge prior meanings of cultural tools and existing frames of conceiving and acting and which require processes of taking initiative to transform them (Y. Engeström, 1996; Virkkunen, 2006). I will summarise with the help of criteria offered by Kaptelinin the oscillations between my theoretical discussions on the 'individual self' and my ultimate interest in teachers' agency for change being examined as a concrete *joint* activity with and in the project. The summary assumes to replace the unit of an "individual's activity" (Kaptelinin) with the unit of an individual presented in the existential framework, i.e., of "a person's interaction with the world mediated by culturally transmitted tools" (see 2.2). For illuminating subjective mechanisms in constructing processes of the activity of formative intervention, I interpret Kaptelinin's criteria as follows:

- **BALANCE** ("the effective motives should be properly represented"; Kaptelinin, 2005, p. 17): The teachers of the project (all teachers of the school) were individually facing 'a top-down' reform as a *need state* which derived from experiencing existential and epistemological concerns and constraints of their power of professional action. The need state recalled a motive to search for joint resources which enable them, in a practical sense, to reconstruct and make sense of the change – a need state for possibility knowledge (Y. Engeström, 2007) that aims at a new balance of motives in framing and constructing a new object of activity.
- **INSPIRATION** ("the object of activity should be not only rationally feasible but also attractive and energizing"; Kaptelinin, 2005, p. 17): The used methodology (CL) offered a new way of knowing and functioned as a new mediating artefact which aimed to capture the complexity of the researched activity (R. Engeström et al., 2014). In the project it recalled the instrumentality which intends to be collaborative, creative, dialogical and open for teachers' multiple and conflicting needs and motives. Among in-

spiring tools that helped create a vision of the possible were activity system models as discussed in this chapter. Several analogies, like the opposing mirrors, or the moebius band as used by Zinchenko (2005) served for illustrational purposes in theoretically oriented discussions. Another important tool was Leontiev's (2007) UMT interview method that was experienced as inspiring in the way it was used (collaboratively, with the teachers conducting the interviews themselves), as its use marked a first step towards a new collective vision in which the professional identities and motivations of individual teachers would play an important part.

- **STABILITY** ("if the object changes too often, the activity can be disorganised"; Kaptelinin, 2005, p.17): In formative interventions, stability is perceived through history which directs to search for the resembles between the present, the past and the future. Changes have shown to call for socio-psychologically stabilising processes of communication, such as *anchoring* (Marková, 2004, p.76), "expressing the idea that people make sense of new and unfamiliar phenomena by assimilating them to the set of their existing social representations and by conventionalising them" and, thus, orientating "the mind towards remaining in the existing state of knowledge" (ibid.). Breaking away from the given frame of action has shown to be challenging and bringing about discourse with affections and "boundary experiences" which occur when participants cognitively and emotionally experience a gap between their present beliefs, routines and competences of the 'old' activity, and the ones of the 'new' activity (Stam, Miedema, Onstenk, Wardekker, & ten Dam, 2013).
- **FLEXIBILITY** ("when the factors, such as motives and available means, change, the object of activity should be redefined to avoid becoming obsolete and ineffective"; Kaptelinin, 2005, p.17): In the formative interventions, it has seemed to become important to contextualise the methodology of the project by conceiving its intervention as a way of knowing that elicits information about the (local) microgenesis of novel solutions concerning the researched activity and about the possibilities and obstacles that will be met during transformation processes – for mediating to enter a next level of the school-based development (R. Engeström et al., 2014; Postholm, 2015). Also, the teacher team decided to continue the development in line with the lively debates in order to bring the found principles to life in a practical sense (article 3). Due to a change in the dynamics of the individual components of activity there is a (real or imagined) rupture in the need-activity-chain and a new need state has to be collaboratively defined when new visions of the possible are required. Such *objectification* as "a sense-making and an outer-directed process", during which "a vague and unfamiliar idea gets fixated and concretised" (Marková, 2004, p.76) forms the counterpart of *anchoring*, albeit these processes might better be considered "in terms of a *gestalt switch*, one process transposing itself into the other during their operation" (p.77, original accentuation).

To view formative intervention from the perspective of learning invites the participants to take part individually in knowledge creation and knowing which comprises all three lines of logic for managing “the unity of the learning activity and learning object” (R. Engeström, 2009, p. 262) as presented above. Concerning education in general, Biesta (2009) addresses the question of the purpose of education as a *composite* question, that is, that the different functions of education (qualification, socialisation, subjectification) all need to be acknowledged, which is, however, “not to suggest that the three dimensions of education can and should be seen as entirely separate” (p. 41). Biesta proposes that the functions of education should be understood as partly overlapping, with these overlapping areas actually being more interesting than the individual areas per se. This, in my view, quite well captures education as ‘poly-motivated’ activity from the perspective of human development, and a core of transformative agency.

The aim of my thesis has been to delve into mediational relations between individual and collective planes of activity with the help of foundational concepts of activity theory. By this, I hope to have shed new light on the relational character of need and activity, and to have put a new emphasis on the role of ‘individual’ as constitutive element within collective activity.

6 GENERAL REMARKS

In this closing chapter of the summarising report, I briefly discuss the role as researcher-practitioner and the generalisability of the overall study with its limitations. Then I reflect about a possible journey onward.

6.1 THE ROLE AS A RESEARCHER-PRACTITIONER

Reflecting on reflection can turn into a feedback loop, as anyone who has experienced being positioned between opposing mirrors is familiar with. This quite well characterises my position in this research project: Having, over decades, become an integral part of the research object, the local school, I was facing the task of deliberately taking an outside position to study developmental steps of my school *as if being able* to take such a view: “We are caught up in the world and we do not succeed in extricating ourselves from it to move to the consciousness of the world” (Merleau-Ponty, 1945, p. 11).

Being the only researcher on site, while remaining in the full-time position as teacher, and later (in the writing process) school principal, inevitably led to blind spots that only someone coming from outside might have been able to discern and describe. On the other hand, being cognisant of this particular double role of being researcher and researched allowed for perspectives that might otherwise not have been possible – “the senses, movements, and our bodies are foundational to the sense we make of the ‘ten thousand’ things in and of the world and ourselves” (Roth, 2012, p. 4) – also evoking the reflective and philosophical style that is apparent throughout the manuscripts that make up this thesis. I am therefore also very much aware of the fact that this developmental journey was necessarily also a journey of *personal* development, investigating and reflecting also on *my* motives and particular worldview, thus acknowledging that the interventionist character of the overall study inescapably also meant an intervention into the self – an *active movement*, this intervention being an activity in itself. This relationship between movement, activity, and being affected promotes what Stetsenko (2017, p. 33) has termed a “transformative worldview”, which is coupling ontology and epistemology with a socio-ethical commitment in cultural-historical research tradition to radical equality and solidarity, underpinning a position that seeks to “avoid extremes of utopian thinking, on the one hand, and gloomy pessimism, on the other” (ibid.). Such a position

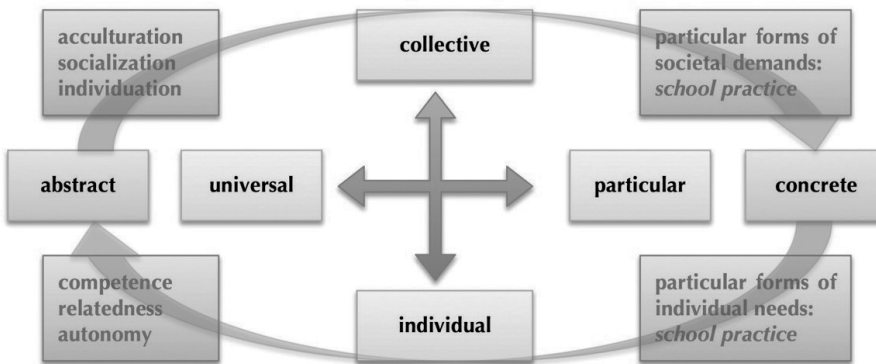
aims to undo the boundary not only between the individual and the social (or agency and structure) but also, in a related move, between the real and the possible (cf. Crapanzano, 2004), specifically through a focus on articulating and committing to the sought-after future that brings the future into the present within the struggles for alternatives including in creating *possibility against probability* (cf. Stengers, 2002b). (Stetsenko, 2017, p. 33)

Taken together, the original studies 1–3, transcending the dualisms by adopting activity-theoretical positions, explore ways for teachers to focus on “developmental possibilities rather than trailing behind developmental inevitabilities” (Daniels, 2009, p. 27) – be it *students* or *schools*.

6.2 GENERALISABILITY OF THE STUDY

In cultural-historical activity theory, on neither of the levels of existence, the human relation to the world can be considered as direct. On all three levels, the human-world-relation is mediated by culture and history. This ontology has been dealt with the fundamental dialectic *and* dialogic relation between subject and object, the germ cell of human activity. Becoming manifested in the simultaneous and fundamental relatedness *and* distinctness of subject and object, this relation must necessarily also be the cradle of human needs. In this context, one further consideration seems worthwhile. In his analysis of the concepts of needs of Hegel and Marx, Fraser (1998) offers an interesting insight: Both thinkers share an understanding of needs that grasps them in their movement from universal to particular forms and back again. It is this *movement between forms* that is at least just as much of interest as pinning down concrete needs, and *universal forms* can clearly be depicted as need states. It is in this line of argumentation in the thesis that I have suggested needs in their unobjectified, existential forms, to rightfully also be eligible for closer examination. Building on Fraser’s (1998) considerations concerning the advantages of investigating the *movements* and *transitions* of needs between abstract and concrete, individual and social forms, rather than perceiving them as fixed and stable phenomena, education becomes explicable as dynamic and poly-motivated activity. Education constantly seeks to balance different needs and motives that on the one hand can be viewed as abstract existential dimensions but that on the other hand take on historically concrete forms, as schools and educational systems develop in, but also actively shape, their respective societal contexts. Fig. 8 demonstrates these dynamics of forms.

FIG. 8 Movement of needs between different forms in educational activity



I consider the model of educational activity as presented in Fig. 7 (p. 37) as widely applicable in the educational domain. As it has been discussed in the thesis, models are used in formative interventions as tools for learning and mastering oneself being oriented at solving the problematic situation and acting for thinking. As epistemic artefacts, models can be used not only for illustrative and explaining purposes but also as investigative instruments for questioning and opening up new perspectives. The limitation of this study, particularly in the frame of formative intervention, concerns the data gathering which did not include audio- or videorecorded data of the developmental sessions and, thus, the use of the models by the practitioners of education. This shortcoming returns partly to my multiple roles of being researcher and a colleague of the members of the team. The team decided not to be audio- or videorecorded in the sessions.

6.3 THE JOURNEY ONWARD

In the course of writing this thesis, the framework conditions for developing secondary schools in Austria have repeatedly changed. The school reform has been reformed again (see p. 18). How does, in this new context, the new understanding of school and its development promote agentic movements on the teachers' side? Are the teachers now better equipped for handling top-down organisational change without a perceived loss of agency on their side? Such a perceived loss marked the starting point of this study, and there is a fair chance that a similar situation might return. I do, however, hope that – based on the collective effort to overcome the previous situation, and along with a newly discovered collective voice – also future challenges can and will be mastered.

The introductory epigraph¹⁷ states that “primary words do not signify things, but they intimate relations” (Buber, 2000, p. 19). It was the *human relating to the world* in object-oriented activity that allowed me to look at the notion of needs as being embedded in and emerging out of activity and to perceive needs as being defined through exactly this *relating*. This made possible to gain a deeper understanding of the relationship of the ‘individual self’ and ‘collective subject’ in the formation of teachers’ transformative agency. Instead of *swallowing up* the individual self or of marginalising it, such an understanding of a subject of being collective and relational enriches and feeds back on the teacher personality.

With this in mind, I would like to conclude this summary with another of Buber’s statements (2005, p. 65, my translation and accentuation) that on the one hand sums up Biesta’s argument concerning the domains of educational purpose – especially with regard to his emphasis on the primacy of the child’s *subjectification* – and on the other hand calls to mind

17 “Grundworte bedeuten nicht Dinge sondern Verhältnisse”. This sentence was present in the original manuscript and first print of *Ich und Du* (1923) but was omitted in subsequent editions (cf. Buber, 2017, pp. 142–143). It is, however, present in the English translation (Buber, 2000, p. 19).

Vygotsky's zone of proximal development, especially his notion of developmental buds (Vygotsky, 1978, p. 86):

Education, worth of this name, is essentially character education. The true educator is not only concerned with single functions of his [or her] pupil – like one who merely aims at teaching certain knowledge and skills – but who is each and every time concerned with the whole person, in fact with the whole person both in its present *actuality* in which the student appears before you, as well as according to its *possibility*, as *what can become of him [or her]*.¹⁸ Buber (2005, p. 65)

¹⁸ "Erziehung, die diesen Namen verdient, ist wesentlich Charaktererziehung. Denn der echte Erzieher hat nicht bloß einzelne Funktionen seines Zöglings im Auge, wie der, der ihm lediglich bestimmte Kenntnisse oder Fertigkeiten beizubringen beabsichtigt, sondern es ist ihm jedesmal um den ganzen Menschen zu tun, und zwar um den ganzen Menschen sowohl seiner gegenwärtigen *Tatsächlichkeit* nach, in der er vor dir lebt, als auch seiner *Möglichkeit* nach, als *was aus ihm werden kann*." (my accentuation)

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8 APPENDIX

Data collected prior, in between, and during the sessions of the development project:

date	type of data	qty	specific remarks
BEFORE THE SESSIONS (MAR 2013 – MAR 2014)			
Mar 2013	interviews with colleagues	5	All interviews were transcribed by me with F4 ¹⁹ , imported into and (partly) coded in MAXQDA ²⁰ .
	interview with school principal	1	
Sep 2013	colleagues' written responses to a letter asking them to reflect on their motivation of becoming, and still being, teachers	8	imported into MAXQADA
	online survey (Basic Psychological Needs at Work Scale ²¹)	14	I translated the scale into German and created an online survey using surveygizmo ²² .
Oct 2013	interviews with colleagues	2	
	interview with former headmaster	1	
Feb 2014	interview with former school friend who is blind (inclusive education of blind students)	1	
Mar 2014	interviews with colleagues	2	
	interviews with teacher students	2	
IN PERIODS BETWEEN THE SESSIONS			
	field notes of informal discussions on current state of historical developments	15	entries in the project log-book in MAXQDA
	historical legal texts concerning school: Schulordnung (1774); Reichsvolksschulgesetz (1869); Hauptschulgesetz (1927/1934); Schulorganisationsgesetz (1962); NMS-Umsetzungspaket (2012); Schulorganisationsgesetz (2014)	7	retrieved from “alex” ²³ (historical texts) and “ris” ²⁴ (current texts)
DURING THE SESSIONS (OCT 2014 – MAY 2016)			
Oct 2015	(session 5) school development conference: introduction of UMT; individual interviews	12	interviews in dyads; logged following the instructions given in Leontiev (2012)
	private conference notes		informal notes

¹⁹ <https://www.audiotranskription.de/>

²⁰ <https://www.maxqda.de/>

²¹ https://depts.washington.edu/fammed/wp-content/uploads/2019/09/SDT_needs_work.pdf (Deci, Ryan, Gagné, Leone, Usunov, & Kornazheva, 2001; Ilardi, Leone, Kasser, & Ryan, 1993; Kasser, Davey, & Ryan, 1992)

²² now Alchemer: <https://www.alchemer.com/resources/>

²³ <https://alex.onb.ac.at> (a database for historical legal texts of the Austrian Empire)

²⁴ <https://ris.bka.gv.at/> (Legal Information System of the Federal Government)

9 ORIGINAL ARTICLES

9.1 ARTICLE 1

Kramer, M. (2016). Inquiry learning arrangements and expansive learning: A tentative dialogue. Investigating TILA from a cultural-historical perspective. In J.Reitinger, C.Haberfellner, E.Brewster, & M.Kramer (Eds.), *Theory of inquiry learning arrangements. Research, reflection, and implementation* (pp.187–204). Kassel, Germany: Kassel University Press.

9.2 ARTICLE 2

Kramer, M. (2018). Promoting teachers' agency: Reflective practice as transformative disposition. *Reflective Practice*, 19(2), 211–224. doi: 10.1080/14623943.2018.1437405

9.3 ARTICLE 3

Kramer, M., & Engeström, R. (2019). Teachers' beliefs as a component of motivational force of professional agency. *Learning, Culture and Social Interaction*, 21, 214–222. doi: 10.1016/j.lcsi.2019.03.007

